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DAILY EDITION

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NATURALLY, after the developments of the past few months in which scientific management has been so much in the forefront, it is to be expected that the subject would be more or less thoroughly discussed at the conventions—not in the meetings, for no special provision has been made for it on the programs of either of the associations, but among the members as they gather in little groups on the pier or in the hotels. Much good has undoubtedly been accomplished by the "tempest in the tea pot" which was stirred up by Mr. Brandeis. It is not due, however, to any general acceptance of the methods advocated by the efficiency men, but rather to the fact that mechanical department officers have been spurred to focus their attention on finding methods for improving the efficiency of their departments.

One motive power officer suggests that after all there is more or less question as to whether F. W. Taylor's investigations may really be regarded as a discovery of any new science of management. Would not Taylor's work more logically be regarded as a discovery or development in making steel, just as Gilbreth's work is a discovery of a better way of laying bricks? The methods used by Taylor, for instance, must be greatly modified or changed to be applied successfully to any business differing from the steel industry. Repairing locomotives and cars differs greatly from either of the two industries above mentioned and must receive an entirely different treatment. Unlike managers of manufacturing industries, mechanical department officers have taken their fellows into their confidence as to the methods they have tried out and the results gained therefrom, and, therefore, improvement in efficiency on the railways in general has been more steady and more marked than in most manufacturing industries. The problem will have to be solved by each road to meet the special conditions with which it has to contend. The general principles which must be followed to bring about successful results may be the same for all roads, but the detail methods will, in most cases, not be at all alike.

THE twenty-fifth annual convention of the Master Car Builders' Association was held 20 years ago at Cape May. In his address the president, John Kirby, said, "The diversity of design of the Master Car Builders' type of coupler is already the cause of a great deal of trouble, and we now have 20 to 25 different patterns all considered as standard couplers, yet the knuckle, that part which requires most frequent renewal, is not interchangeable with any of the other designs. Then there are the coupling devices differing from each other and as diverse as the couplers themselves. This multiplicity of design is tending in the wrong direction, and in view of the past experience, I venture to recommend that a committee be appointed to consider the best course to pursue in restricting the use of M. C. B. couplers to not more than five different kinds and that the uncoupling devices be as nearly uniform as possible." It would have been a fortunate thing if such a committee had been appointed and had been made a standing committee, for the difficulties which Mr. Kirby referred to have been increasing ever since and they have been the cause of an enormous amount of trouble and expense in car interchange. The secretary, John W. Cloud, had at that time so improved on the ancient custom that he placed each member in possession of all the committee reports two weeks in advance of the convention. He reported a total membership of 264 and the number of cars represented was 982,970. A report on metal for brake shoes, made by G. W. Rhodes, contained the results of measurements of the friction of brake shoes on a small machine designed for the Burlington laboratory by F. W. Sargent, and this was the commencement of the important research work on brake shoes which has been carried on by Mr. Sargent ever since that time. A report on the use of pressed steel in car construction indicated that there were about 15,000 tons of that material on cars in the United States. The principal report related to the maintenance of standards for couplers and contained an investigation of the executive committee to ascertain how nearly the various coupler manufacturers were conforming to the standard lines for the shape of the coupler head and anchor; it was decided to be important for the association to establish standard gages for the inspection of couplers in the maintenance of standard lines.

IT is nearly 25 years since the M. C. B. coupler was adopted as a standard for all railway cars in the United States, Canada and Mexico, and while the universal adoption of an automatic coupler for the railways of Europe has been under consideration for several years and some progress has been made in improving the coupler designs, yet we believe no system of railways in Europe has decided to equip all its freight cars with automatic couplers. In Great Britain there is little pros-

pect of such an act for years to come as the average capacity of freight cars is small and is not increasing to any great extent, and it is still claimed that a man with a stick of wood can couple freight and passenger cars and connect air hose as rapidly as can be done when automatic car couplers are used. In India, however, conditions are much more favorable, as the cars and locomotives are larger and the breakage of the screw coupler is causing such wholesale renewals that something better is demanded. When the screw coupler is made more than $1\frac{1}{2}$ in. in diameter it becomes so heavy that it is not easily handled by one man, and if it is not made stronger for large capacity cars it breaks so frequently that the Indian railways, ever slow to adopt anything new, are beginning to look more favorably on the adoption of an automatic coupler. In Argentina a state law passed in 1909 makes it compulsory for all cars to be fitted with automatic couplers within 9 years from that date. Three years are allowed for investigation and tests by a commission appointed by the state, and after a standard coupler has been approved and adopted by this commission all the cars must be equipped with it within 6 years. From the various types presented a few of the best will be selected and 50 cars will be equipped with each type selected for the tests. These coupler tests will be the most extensive and important which have been made since those conducted by a committee of the M. C. B. Association in 1887. One of the prominent couplers which will be entered in the Argentine tests is the Jepson, which is in use in various parts of Europe and is largely used in India. This coupler has a large buffet face solid with the drawbar, and stresses due to shock are transmitted through this, but the coupler gear is protected. Each head is provided with a large hook and a link or shackle which is hinged so as to have a vertical motion. The coupler is flexible and on curves it sets itself so as to enter fair. It does not allow for as much variation in the height of cars as the M. C. B. and some slack, about $\frac{3}{8}$ in., is necessary to allow for a vertical range of 4 in. It has an advantage over the M. C. B. for the transition period, as its link can be used to couple with an ordinary link and pin coupler, and a hinged nut can be inserted in it to make it articulate with the standard screw coupling. It can also be easily made to couple with the M. C. B. couplers or the Norwegian hook types. Probably the best arrangement for the transition period is the Laycock modification of the M. C. B. type, which is already in use on some of the large joint stock equipments in England and on the Continent. In this coupler the automatic coupler head swings out of the way when it is desired to bring the ordinary draw hook into use. It is likely that it will be extensively used in England where the transition phase will be long continued, and principally on passenger equipment as there is no probability of the introduction of automatic couplers on the small freight cars of that country. In France, Germany and Russia, where the freight cars are larger, automatic couplers are being used experimentally, but there is no strong movement toward their adoption as there is in India and the Argentine.

CAR LIGHTING.

DURING the past year very satisfactory improvement has been made in car lighting, and while much of this is due to metal filament electric lamps, gas lighting has also contributed its share. The Illuminating Engineering Society is rapidly educating the railway electrical engineer, as well as the railway public. It is teaching the former how to provide efficient and economical illumination for passenger cars, and the latter to be more rational in its demands. Bright lights in spots are no longer regarded as satisfactory, moderate illumination well diffused being more desirable.

Much of the fatigue and nerve stress caused by railway travel is due to the glare of bare lamps, which cause a constant stream of light to strike the eye. The attempt

to correct this by covering the center lamps with reflectors which direct the light to the ceiling and allow it to be reflected to the seats, while correct in principle, has not been worked out in practice so as to be generally applicable to car lighting, though some special cars with white headlinings have been successfully lighted in that way, and this method will doubtless extend to the more exclusive and first-class equipment. Some improvement in comfort is obtained by the use of ground glass lamps, and a large gain in efficiency is due to the use of small metallic reflectors or glass prism reflectors.

A larger distribution of the lamps and their location on the sides of the car and on the lower deck has also resulted in a considerable gain in satisfactory car illumination. The attempt to light dining cars with the lower lights only, leaving out the center lamps in the upper deck, has not proved satisfactory, as it leaves all the upper portion of the car in comparative darkness, producing a gloomy effect which is distasteful to the passengers. Here is an opportunity to make the center lights a decorative feature by providing a slight illumination in colored flower effects similar to those employed for table decorations, as it would help to illuminate the upper portion of the car and at the same time furnish something more pleasing to the eye than the usual metal lamp fixture. The berth lamps in sleeping cars have been improved so that they furnish satisfactory light for reading in an economical manner, and it is no longer necessary to furnish deck lights of great brilliancy, as they can be so well shielded as not to be oppressive to the eye. The 60-volt metal filament lamp of 12 candle power has been found admirably adapted to car lighting, and is now being used on a number of roads. By a proper distribution and the use of reflectors a much better illumination is obtained, the number of lamps is considerably reduced and a large economy is effected in the electric current supply. The lighting of postal cars has received special attention in this reform, and the aim has been to have a greater distribution of light in smaller units at the places where most needed.

The head end system of lighting, with the generator on the locomotive or in the front car, is found to be an economical method and so reliable that it is no longer found necessary to provide an auxiliary lighting supply. Improvements in gas lighting have kept pace with electric lighting, especially with respect to the burners, mantles, and lamp fixtures adapted to side and lower deck locations.

The present state of the art of car lighting by electricity was recently described, with illustrations of the improved fixtures and tables giving the results of tests, in a paper on Recent Developments in Train and Car Lighting, by C. R. Gilman, chief electrician of the Chicago, Milwaukee & St. Paul, read at a meeting of the Chicago section of the Illuminating Engineering Society on April 20. In measuring the degree of illumination, Mr. Gilman has referred to a horizontal plane 33 in. from the car floor, and he regards 2 candle feet measured in that way as satisfactory car illumination. While there has been considerable controversy as to the proper angle to be used in measuring car illumination, there is now a general agreement that the horizontal plane is the simplest, and with proper factors to be used when desirable it is sufficiently accurate. It is probable, therefore, that this will be made a standard by the Illuminating Engineering Society.

PROGRAM FOR THE WEEK.

MONDAY, JUNE 19.

Address by the President..... 10.00 A. M. to 11.00 A. M.
Reading of the minutes of the last
meeting 11.00 A. M. to 11.05 A. M.

Report of Secretary and Treasurer	11.05 A. M. to 11.20 A. M.
Assessment and announcement of annual dues; appointment of Committees on Correspondence, Resolutions, Obituaries, etc.....	11.20 A. M. to 11.30 A. M.
Election of Auditing Committee...	11.30 A. M. to 11.35 A. M.
Unfinished Business.....	11.35 A. M. to 11.40 A. M.
New Business.....	11.40 A. M. to 11.50 A. M.
Discussion of Reports on:	
Nominations	11.50 A. M. to 12.00 M.
Revision of Standards and Recommended Practice.....	12.00 M. to 12.30 P. M.
Train Brake and Signal Equipment	12.30 P. M. to 1.00 P. M.
Brake Shoe Equipment.....	1.00 P. M. to 1.30 P. M.

TUESDAY, JUNE 20.

Discussion of Reports on:	
Rules for Loading Materials....	9.30 A. M. to 10.00 A. M.
Rules of Interchange.....	10.00 A. M. to 10.30 A. M.
Prices for Labor and Materials for Steel Cars.....	10.30 A. M. to 10.45 A. M.
Coupler and Draft Equipment...	10.45 A. M. to 11.15 A. M.
Car Wheels.....	11.15 A. M. to 12.00 M.
Safety Appliances.....	12.00 M. to 12.15 P. M.
Revision of Code of Air Brake Tests	12.15 P. M. to 12.30 P. M.
Freight Car Trucks.....	12.30 P. M. to 1.00 P. M.
Refrigerator Cars	1.00 P. M. to 1.30 P. M.

WEDNESDAY, JUNE 21.

Discussion of Reports on:	
Consolidation of Master Car Builders' and Master Mechanics' Associations	10.00 A. M. to 10.30 A. M.
Springs for Freight Car Trucks.	10.30 A. M. to 11.00 A. M.
Lumber Specifications	11.00 A. M. to 11.15 A. M.
Train Lighting and Equipment..	11.15 A. M. to 11.45 A. M.
Train Pipe Connections for Steam Heat	11.45 A. M. to 12.00 M.
Unfinished business; Reports of Committees on Correspondence, Resolutions, and such other committees as may be named during the convention	12.00 M. to 12.15 P. M.
Election of Officers.....	12.15 P. M. to 1.30 P. M.

ENTERTAINMENT.

MONDAY, JUNE 19.

Grand March, 9.30 A. M. Sharp.
 From Marlborough-Blenheim Hotel to Convention Hall, Million Dollar Pier.
 Band Concert, 10.30 A. M.
 Entrance Hall, Million Dollar Pier.
 Band Concert, 3.30 P. M.
 Entrance Hall, Million Dollar Pier.
 Reception, 9.00 P. M.
 By the President and Officers of the Master Car Builders' Association in the Blenheim Exchange, Marlborough-Blenheim Hotel.
 Cadets de Gascogne.

TUESDAY, JUNE 20.

Band Concert, 10.30 A. M.
 Entrance Hall, Million Dollar Pier.
 Miss Beatrice Herford, 3.00 P. M.
 Entertainer in Original Monologues, Brighton Casino.
 Band Concert, 4.00 P. M.
 Entrance Hall, Million Dollar Pier.
 45th Annual Ball, 9.30 P. M.
 Of the Master Car Builders' Association (Vollmer's Orchestra).

The Galena-Signal Oil Company's booth will be used as a rest room for the Officers and their guests.

M. C. B. ASSOCIATION OFFICERS, 1910-1911.

President, T. H. Curtis, S. M., Louisville and Nashville; First Vice-President, A. Stewart, G. S. M. P., Southern; Second Vice-President, C. E. Fuller, A. G. M., Union Pacific; Third Vice-President, D. F. Crawford, G. S. M. P., Penna. Lines; Treasurer, J. S. Lentz, M. C. B., Lehigh Valley; Secretary, Joseph W. Taylor. Executive Members, J. D. Harris, C. E. Fuller, A. G. M., Union Pacific; C. A. Seley, M. E., C. R. I. & P.; D. F. Crawford, G. S. M. P., Penna. Lines; F. W. Brazier, S. R. S., N. Y. C. & H. R.; C. A. Schroyer, S. C. D., C. & N. W.

STANDING COMMITTEES.

Arbitration—J. J. Hennessey (Chairman), M. C. B., C. M. & St. P.; T. W. Demarest, S. M. P., Penna. Lines; J. S. Lentz, M. C. B., Lehigh Valley; W. A. Nettleton, G. S. M. P., C. R. I. & P.; E. D. Bronner, S. M. P., M. C.

Revision of Standards and Recommended Practice—R. L. Kleine (Chairman), G. C. I., Penna. R. R.; W. E. Dunham, Supervisor M. P., C. & N. W.; T. H. Goodnow, M. C. B., L. S. & M. S.; W. H. V. Rosing, M. E., M. P.; C. E. Fuller, A. G. M., U. P.; T. M. Ramsdell, M. C. B., C. & O.; O. C. Cromwell, M. E., B. & O.

Train Brake and Signal Equipment—R. B. Kendig (Chairman), G. M. E., N. Y. C. Lines; T. L. Burton, Gen. Inspr., C. R. R. of N. J.; B. P. Flory, S. M. P., N. Y. O. & W.; E. W. Pratt, A. S. M. P., C. & N. W.; R. K. Reading, S. M. P., Penna. R. R.

Brake Shoe Equipment—W. F. M. Goss (Chairman), University of Illinois; C. D. Young, A. E. M. P., Penna. Lines; R. B. Kendig, G. M. E., N. Y. C. Lines.

Coupler and Draft Equipment—R. N. Durborow (Chairman), S. M. P., Penna. R. R.; G. W. Wildin, M. S., N. Y. N. H. & H.; F. W. Brazier, S. R. S., N. Y. C. & H. R.; F. F. Gaines, S. M. P., C. of G.; F. H. Stark, Supt., Pittsburgh Coal Co.; H. La Rue, M. C. B., C. R. I. & P.; H. L. Trimyer, M. C. B., S. A. L.

Rules for Loading Materials—A. Kearney (Chairman), A. S. M. P., N. & W.; R. E. Smith, G. S. M. P., A. C. L.; William Moir, M. S., Minn. & Int.; L. H. Turner, S. M. P., P. & L. E.; W. F. Kiesel, Asst. Engr., Penna. R. R.

Car Wheels—William Garstang (Chairman), S. M. P., C. C. C. & St. L.; W. C. A. Henry, S. M. P., Penna. Lines; A. E. Manchester, S. M. P., C. M. & St. P.; R. W. Burnett, G. M. C. B., C. P.; R. L. Ettenger, C. M. E., Southern; J. A. Pilcher, M. E., N. & W.; O. C. Cromwell.

Safety Appliances—T. H. Curtis (Chairman), S. M., L. & N.; A. La Mar, G. C. I., Penna. Lines; C. B. Young, M. E., C. B. & Q.; H. Bartlett, G. S. M. P., B. & M.; T. M. Ramsdell, M. C. B., C. & O.; M. K. Barnum, G. S. M. P., C.; W. O. Thompson, M. C. B., N. Y. C. & H. R.

SPECIAL COMMITTEES.

Revision of Code Tsfts—A. J. Cota (Chairman), M. M., C. B. & Q.; F. H. Scheffer, S. M., N. C. & St. L.; J. R. Alexander, Gen. Road Foreman, Penna. R. R.

Freight Car Trucks—A. S. Vogt (Chairman), M. E., Penna. R. R.; C. A. Seley, M. E., C. R. I. & P.; J. J. Tatum, S. F. C. D., B. & O.; J. F. De Voy, M. E., C. M. & St. P.; G. A. Hancock, S. M., St. L. & S. F.

Prices for Labor and Material for Steel Cars—F. H. Clark (Chairman), G. S. M. P., C. B. & Q.; G. E. Carson, D. M. C. B., N. Y. C. & H. R.; C. F. Thiele, G. C. I., P. C. C. & St. L.; Ira Everett, G. F. C. R., Lehigh Valley; B. Julien, G. C. F., U. P.; S. T. Park, S. M. P., C. & E. I.; T. M. Ramsdell, M. C. B., C. & O.

Refrigerator Cars—M. K. Barnum (Chairman), G. S. M. P., I. C.; J. S. Chambers, S. M. P., A. C. L.; G. W. Lillie, S. C. D., St. L. & S. F.; W. E. Sharp, M. C. B., Armour Car Lines; E.

Posson, Engr. Car Cons., A. T. & S. F.; W. C. Arp, S. M. P., Vandalia; R. S. Miller, G. F. C. D., N. Y. C. & St. L.

Springs for Freight Car Trucks—F. M. Gilbert (Chairman), M. E., N. Y. C. & H. R.; W. F. Kiesel, Asst. Engr., Penna. R. R.; M. H. Wickhorst, Engr. Tests., C. B. & Q.; T. A. Lawes, S. M. P., Southern Indiana; J. R. Onderdonk, Engr. Tests., B. & O.

Lumber Specifications—G. N. Dow (Chairman), G. M. I., L. S. & M. S.; G. H. Gilman, M. C. B., N. P.; R. W. Burnett, G. M. C. B., C. P.

Consolidation—F. H. Clark (Chairman), G. S. M. P., B. & O.; W. A. Nettleton, G. S. M. P., C. R. I. & P.; C. A. Schroyer, S. C. D., C. & N. W.

Train Lighting and Equipment—T. R. Cook (Chairman), M. M., Penna. Lines; C. A. Brandt, A. E. M. C., L. S. & M.; Ward Barnum, Elec. Engr., L. & N.; J. H. Davis, Elec. Engr., B. & O.; E. A. Benson, M. S., Pullman Co.

Train Pipe and Connections for Steam Heat—I. S. Downing (Chairman), M. C. B., L. S. & M. S.; C. A. Schroyer, S. C. D., C. & N. W.; H. E. Passmore, M. M., T. & O. C.; T. H. Russum, S. P. C. D., B. & O.; J. J. Ewing, M. E., C. & O.

Nominations—J. F. Deems (Chairman), G. S. M. P., N. Y. C.; A. W. Gibbs, G. S. M. P., Penna. R. R.; C. A. Seley, M. E., C. R. I. & P.; W. H. Lewis, S. M. P., N. & W.; J. F. Walsh, S. M. P., Ches. & Ohio.

Arrangements—T. H. Curtis, S. M., L. & N. R. R.

LOST BADGES.

Losers of badges are requested to immediately report the badge number at the office of the enrollment committee on the pier. Finders of badges will also please report to the same committee.

THE CORNELL DINNER.

The annual Cornell dinner was held at the Hotel Windsor Saturday evening. About 30 men were present. J. F. DeVoy was elected president for next year and E. A. Averill was again elected secretary. Among those present were: A. M. Darlow, M. E., B. & S.; E. A. Averill, *American Engineer and Railroad Journal*; L. H. Snyder, Joseph Dixon Crucible Company; M. H. Hague, M. E., A. T. & S. F.; W. E. Dunham, Sup'vr. M. P. & M., C. & N. W.; George F. Johnson, Buckeye Steel Castings Company; George W. Ristine, Jr., Pressed Steel Car Company; E. A. Stillman, Watson Stillman Company; P. B. Harrison, Chicago Railway Equipment Company; Chas. P. Storrs, Storrs Mica Company; Huntly H. Gilbert, George E. Molleson Company; John D. Ristine, Mamolith Carbon Paint Company; H. G. McDonald, Standard Steel Car Company; B. F. Cory, S. M. P., N. Y. O. & W.; W. W. Gephart, Acme Supply Company; W. W. Storm, William Sellers & Company; John H. Thomas, Standard Paint Company; R. S. Cooper, Independent Pneumatic Tool Company; R. L. Gordon, Standard Steel Car Company; J. F. DeVoy, A. S. M. P., C. M. & St. P.; F. F. Gaines, S. M. P., Cent. of Ga.; C. B. Young, M. E., C. B. & Q.; C. B. Goodspeed, Buckeye Steel Casting Company; John H. Wynne, American Locomotive Company.

LOST.

George E. Cooper lost an alligator leather pocket case Saturday afternoon on the way to Inlet Park. While it contained no money, it did contain some memoranda of value to Mr. Cooper. The finder will be properly rewarded upon return of the lost article to Mr. Cooper at the Marlborough-Blenheim.

"Whip" has lost his umbrella, a new one of the folding type, and mourns it greatly. He lost it on the pier. "Whip" is A. L. Whipple and is staying at room 470, Marlborough-Blenheim.

SUPPLY MEN'S ANNUAL MEETING

The annual meeting of the Railway Supply Manufacturers' Association was held in Greek Temple, Million Dollar Pier, Saturday morning at 11 o'clock.

President Adrian opened the meeting by speaking of the healthy condition of the finances of the association and gave some interesting statistics. He stated that last year the exhibits aggregated 71,453 sq. ft., whereas this year they cover 76,110 sq. ft. The number of exhibitors in 1910 was 238, and this year the number is 250.

Chairman Storrs, of the By-Laws Committee of the Executive Committee, reported the necessity for making certain changes in the by-laws of the association; and on his motion, Section 2, Article 2, of the by-laws was amended as follows: Canada was added to district 1, which has heretofore consisted of the New England states only. Maryland, Delaware, District of Columbia and West Virginia, heretofore in the third district, and Kentucky and Tennessee, heretofore in the fourth district, were added to the sixth district. With this amendment, the third district will consist of the state of Pennsylvania only; district four will include Ohio, Indiana and Michigan only, and district six will be composed of the states of Maryland, Delaware, District of Columbia, Virginia, West Virginia, North Carolina, Kentucky, Tennessee, Alabama and Mississippi. The districts named were readjusted because a tabulation of the members showed that while one was from Canada, that country had not been included in any of the districts; and that in the case of district six, there were but three members, although it had equal representation in the Executive Committee with the first and seventh districts. The change in district six will swell the representation from three to 14, assuming that the same number of members enroll in 1912 as this year.

The by-laws were further amended so that officers elected from without the Executive Committee become ex-officio members of that committee.

The report of the executive committee covering the district elections of the day before showed the election of George N. Riley and Frank J. Lanahan (third district), succeeding B. E. D. Stafford and E. M. Grove; J. Will Johnson (fifth district), succeeding L. R. Phillips; and George L. Morton (sixth district), succeeding A. C. Langston.

The report of the nominating committee, which had named B. E. D. Stafford, Flannery Bolt Company, Pittsburgh, Pa., for president, and Samuel G. Allen, Franklin Railway Supply Company, New York City, for vice-president, showed that the association had not exercised its prerogative by naming other candidates.

Messrs. Stafford and Allen were elected unanimously. Both candidates made short speeches of acceptance, saying how unexpected was the honor, and thanking the association for the confidence shown. The latter was quite in order; but everybody present knew that the first statement was a mere formality, since the election of both deserving men had already been predicted in *The Daily*.

A vote of thanks was tendered to the retiring officers.

The Benguella Railway, which is to extend from the Atlantic at the harbor of Lobito eastward across the Portuguese colony of Angola to the copper mines of Katanga, near the ninth parallel of south latitude, has been completed for 200 miles, and surveys have been completed for some 400 miles further. Three lines are headed for these mines, of which the Benguella is the shortest; but the route down the Congo is mostly a navigable river, while the nearest port by the Rhodesian railway is on the other side of the continent, in Portuguese East Africa. The Benguella Railway has a short section with a grade of 330 ft. per mile, worked by the Riggerback cog-wheel system.

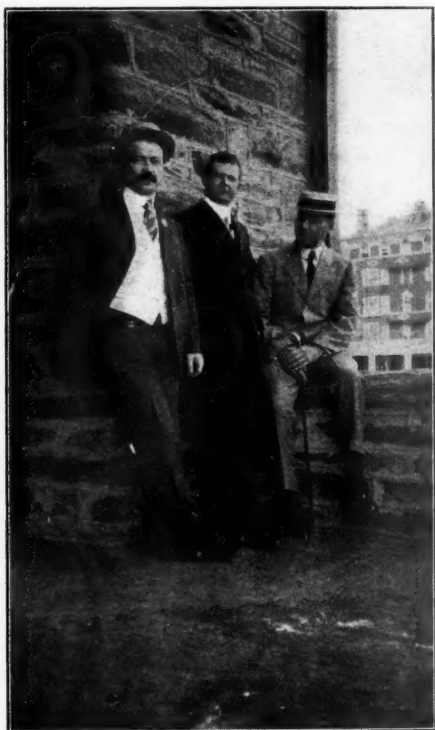
REMAINING GLIMPSES OF PAST CONVENTIONS.

The 1907 convention got a bad start. To begin with, the executive committee decided to smash some antiquated precedents. For instance, it decreed that permanent booths of uniform design should be used for all exhibits. The Stick



A. Kearney and J. Milliken, Atlantic City, 1907.

To It Paint Company (and some others) failed to see why it should not be permitted to put up the same striped tent that it had occupied every June for so many years back; and insult was added to injury when the concern was forced to pay a most outrageous charge for exhibit space to boot! And after Mark Ross and his bodyguard had explained matters, and after everything had been put in ship-shape order, it was discovered that the weather man was grouchy because he had not been visited by a delegation and presented with a badge. Surely he was justified; for even the chambermaids in the numerous hotels had not been overlooked. In any



C. E. Postlethwaite, A. Kearney and J. H. Mitchell, Atlantic City, 1907.



F. P. Huntley, Atlantic City, 1907.

event, the records show that for several days a steady stream of men in flannel clothes, straw hats and overcoats passed in review before the office of the *Daily Railway Age* casting envious glances at the little oil stove running full blast. The leading editorial note in *The Dai'y* of June 12, 1907, said: "The *Daily Railway Age* has attended twenty of these conventions and never until yesterday did we find it necessary to install a heating p'ant in our temporary local office." And scattered through later issues we find remarks of this tenor: "Weather for today: Falling snow, with rising temper." "If the temperature yesterday was two degrees warmer than the day previous, and the same increase is made with each



J. G. Bower, Atlantic City, 1908.



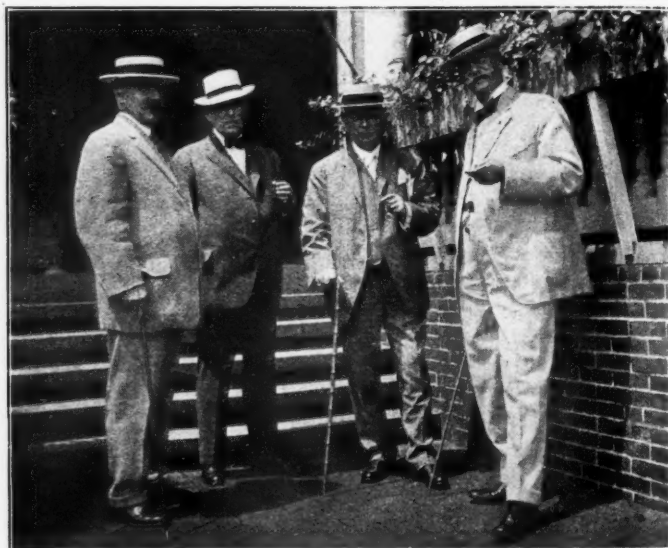
A Pressed Steel Car Crowd—Messrs. Bowen, Lindstrom, Gayley, Mitchell, von Schlegel and Postlethwaite, Atlantic City, 1908.



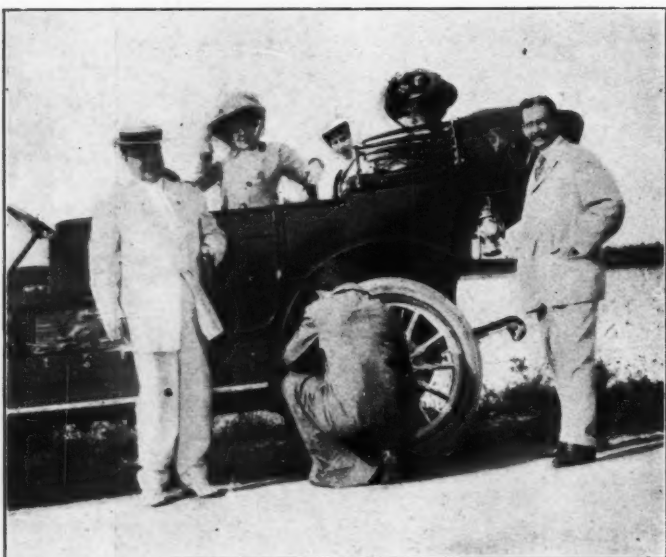
T. H. Symington, R. P. C. Sanderson and H. A. Gillis at the Country Club, Atlantic City, 1910.



The Durisett-Storrs-Symington Troupe, Atlantic City, 1909.



Frank T. Reese, William Latshaw, William Gibson and Bob Fisher, Atlantic City, 1910.



Prof. Paul Anderson and A. Telford, Atlantic City, 1909.



Country Club, Atlantic City, 1910.

successive day, it will be 80 in the shade some time." "Weather indications for today:—Part'y cloudy, with light, variable winds, becoming northwest. WARMER!!!" Old Sol smiled a bit before the end of the convention, but for some days the only comfortable place on the Steel Pier was the lee side of the wind break.

Aside from the weather, there was little to gossip about in 1907. The Railway Supply Men's Association changed its name to Railway Supply Manufacturers' Association and adopted a new constitution and bylaws; but as that proceeding had been all cut and dried, it was only incidental.

The Million Dollar Pier was used for the first time by the M. M. and M. C. B. associations in June, 1908; and the convention was a great success from start to finish—all except the ball game. But that was awful! The railway men, under the leadership of one George W. Wildin, (with emphasis on the din) thought that for once in their lives they would get ahead of the supply men; so the challenge was put and promptly accepted. The final line-up showed 14 men to a side; and of the 14 railway men, the combined weight of 12 was 2,272 lbs., and the chest measurement, 490 in. As the square inches of heating surface are not known, one is unable to figure the total waist area; but a rough approximation is a matter of simple arithmetic. At any rate, the final score was 25 to 19. As the betting had been 100 to 1 on the supply men, under the condition that the umpires were not subsidized, it is needless to say which side won.

And of the 1909 convention, what shall be said? Oh, yes! We now recall that the supply men had a lot of fun electing officers for their little association. It all started over the chance remark of a lost brother, who said that somebody or other wasn't fit to drive the car, or even to act as footman. It certainly was some dusty around these sandy parts for a few days; but if it were not for our irrepressible anxiety to take advantage of this opportunity to deliver one or two gentle digs in the intercostal spaces it is doubtful if anyone here would have thought of the incident.

It would be unjust to all concerned to pass 1909 without recalling the fact that it was in that year that the wholesale distribution of badges and the practice of giving souvenirs were stopped. Those two acts have contributed much to the combined efforts of railwaymen and suppliers to place these conventions on the highest possible plane.

Last year is still so fresh in the minds of most of us who are here today that little need be said. In fact, there is not much, outside of the regular routine, to relate. So successful was the convention that most everyone was happy when it became known that Atlantic City had been selected for 1911.

M. C. B. REGISTRATION.

Ayers, A. R., M. E., L. S. & M. S. Ry., Shelburne.
Beaumont, H. A., G. F. Car Shops, B. & O. R. R., Young's.
Bloxham, C. M., M. C. B., Union Tank Line Co., Young's.
Boughton, Wm., G. M. M., Pere Marquette R. R., Traymore.
Brandt, C. A., Mech. Eng., C. C. C. & St. L. R. R.
Carson, G. E., Div. M. C. B., N. Y. C. & H. R. R. R., Traymore.
Case, S. T., M. C. B., N. Y. C. & H. R. R. R., Pennhurst.
Crone, S. A., Past President, M. C. B., Dennis.
Deems, J. F., S. M. P., N. Y. C. & H. R. R. R., Marlborough-Blenheim.
Demarest, H. N., G. C. I., Penna. R. R., Pennhurst.
Dooley, Wm. H., S. M. P., C. N. O. & T. P., Dennis.
Durborow, R. N., S. M. P., Penna. R. R. Co. (Eastern Div.), Chalfonte.
Everett, Ira, Gen. For. Car Rep., L. V. R. R. Co., Dennis.
Fogg, J. W., M. M. B. & O. Chgo. Term. R. R., Chalfonte.
Gorrell, W. F., M. C. B., Phila. & Reading Ry., Monticello.
Graburn, A. L., M. E., Canadian Northern Ry., Young's.
Graham, H. E., V. P. & Mang., P. A. & McKees. R. R. Co., Marlborough-Blenheim.
Hayward, H. S., S. M. P., P. R. R., Chalfonte.
Hendry, John, M. C. B., Grand Trunk Ry. Sys., Traymore.

Hennessey, J. J., M. C. B., C. M. & P. S. Ry., Tacoma Eastern R. R., Chalfonte.
Hitt, Rodney, Asso. Editor Electric Ry. Journal, Chalfonte.
Hodgson, John L., M. C. B., Grand Trunk Ry., Traymore.
Jackson, J. S., S. M. P., Chgo. Terra Haute & South East Dunlop.
Kalbaugh, I. N., S. M. P., Coal & Coke Ry., Traymore.
Keegan, J. E., S. M. P., Grand Rapids & Indiana Ry., Young's.
Kent, F. S., Penna. R. R., Marlborough-Blenheim.
Krause, Julius, Gen. Car Insp., Penna. R. R. Co., Chalfonte.
Lake, J. J., Gen. Car For., Gt. Nor. Ry.
LaMar, A., Gen. Car Insp., N. W. Sys., Dennis.
Lentz, John S., M. C. B., L. Valley, Dennis.
Lynn, Samuel, M. C. B., P. & L. E. R. R., Pennhurst.
McCuen, J. P., Gen. Insp., Queen & Crescent Route, Dennis.
McCuen, R. E., Lexington & Eastern Ry. Co., Dennis.
McWood, Wm., Past Pres., M. C. B., Traymore.
May, H. C., S. M. P., Chgo. Ind. & Louis. R. R., Chalfonte.
Miller, R. S., G. F. D., N. Y. C. & St. L. R. R., Dennis.
Mowery, I. N., M. M., N. Y. N. H. & H. R. R., Chalfonte.
Mussey, Wm. H., A. E. M. P., Long Island R. R. Co.
Ord, L. C., Gen. Inspector, B. & O. R. R., Young's.
Payne, H. R., V. P., Union Tank Line Co., Young's.
Rasbridge, R. B., V. V. I., P. & R. Ry., Dennis.
Rollings, R. O., Asst. M. M., L. & N. R. R., Westminster.
Russum, T. H., Supt. Pass. Car Dept, B. & O. R. R., Shelburne.
Sage, R. V., Cambria Steel Co., Chelsea.
Scheffer, F. H., Supt. Machry., M. C. & St. L., Runnymede.
Schnepel, J. H., Chief Draftsman, N. Y. C. & H. R. R. R., New England.
Schwartz, C. L., A. G. M., St. Louis Rfr. Car Co., Young's.
Tatum, John J., S. F. C. D., Baltimore & Ohio R. R. Co., Chelsea.
Tewkesbury, E. M., G. S., South Buffalo Ry., Haddon Hall.
Thomas, F. H., V. P. & Gen. Mgr., Bellefonte Central R. R., Craig Hall.
Treleven, Thos. A., M. C. B., Grand Trunk Ry., Traymore.
Wilson, R. D., Asst. Ch. Car Insp., P. & R. R. R., Monticello.

M. M. REGISTRATION.

Bingaman, Charles A., Engr. Tests, Philadelphia & Reading Ry., Monticello.
Boughton, Wm., G. M. M., Pere Marquette R. R., Traymore.
Brangs, P. H., Dennis.
Deems, J. F., G. S. M. P., N. Y. C. & H. R. R. R., Marlborough-Blenheim.
Durborow, R. N., S. M. P., Penna. R. R. Co., Chalfonte.
Ferguson, L. B., M. M., Vicksburg, Shreveport & Pacific, Monticello.
Greenwood, H. F., Gen. For., Norfolk & Western Ry., Wilson.
Grimshaw, F. G., M. M., W. J. & S. S. Div., Penna. R. R.
Keegan, Jas. E., S. M. P., G. R. & I. R. R., Young's.
Kells, Willard, M. M., Lehigh Valley R. R., Revere.
Kneass, Strickland L., Wm. Sellers Co., Ltd., Marlborough-Blenheim.
Mowery, J. N., M. M., N. Y. N. H. & H. R. R., Chalfonte.
Robb, J. M., Marlborough-Blenheim.
Sheahan, J. F., M. M., International G. N., Tracy.

GUESTS.

Albers, L. H., Ch. Supervision of Air Brakes, N. Y. C. Lines, Marlborough-Blenheim.
Allen, W. P., Spt. Eng., M. of W., Penna. R. R., Shelburne.
Anderson, H. A., Foreman Metal Yard, New England.
Anderson, John, Ch. Clk. to S. M. P., P. R. R., Runnymede.
Andrews, D., Mach. Shop Foreman, B. & O. R. R., Whittle.
Andrews, S. B., Mech. Eng., Seaboard Air Line, Monticello.
Atkinson, C. R., Secy. C. S. M. P., P. R. R.
Baker, Horace, Gen. Mngr., C. N. O. & T. P., Private Car, P. R. R. Tracks.
Baldwin, R. S., Elec. Eng., Mexico & No. Western Rwy., Chalfonte.
Beaghen, Thos., Jr., Asst. to M. C. B., Union Tank Line Co., Young's.
Bender, E. N., Genl. Pur. Agt., Can. Pac. Ry. Shelburne.
Bender, H. C., For. Erect. Shop, Penna. R. R., Maryland.
Bertin, M. J. A., Spec. App., Penn. R. R., Continental.
Besler, W. G., V. P. & Gen. Mgr., Central R. R. of N. J., Dennis.
Best, J. I., Ch. Clerk S. M. P., P. & R. Rwy., Dennis.
Bloxham, C. L., Travelling Inspector, Union Tank Line Co., Young's.
Bonhof, H. J., Inspector, Union Tank Line Co., Young's.
Bowers, W. C., Pur. Agt., N. Y. Cen. & H. R. R. R., Shelburne.
Boyer, C. W., For. Erect. Shop, Penna. R. R., Continental.

Broncher, Peter S., For. Iron & B. Found., P. & R., Strand.
 Brown, Thos., Erecting Foreman, P. & R. Ry., Rudolph.
 Bunnell, F. O., Eng. Tests, Rock Island, Dennis.
 Carpenter, C. L., Genl. Mngr., Guantanamo & Western R. R., Penhurst.
 Carter, F. C., Stock Clerk, P. R. R., Chalfonte.
 Chamberlin, F. H., For. Mach. Shops, P. R. R., Whittle.
 Church, H. M., Asst. Eng., Oper. Dept., B. & O.
 Collier, P. M., M. M., P. A. & McK. R. R. R., Marlborough-Blenheim.
 Collins, Geo., Manager, Central Ontario R. R., Pennhurst.
 Connely, E. K., Pur. Agt., Pgh. & E. R. R., Young's.
 Conniff, P., M. M., B. & O., Wyoming.
 Cooke, D. E., Genl. Foreman, N. Y. N. H. & Hartford, Dunlop.
 Cooper, R. W., Asst. Foreman, Standard Oil Co., Young's.
 Copperstone, D. C., Aud. Disbursements, Penna. Co., Chalfonte.
 Coulter, A. F., Genl. Car Foreman, Union R. R., Channel.
 Covert, M. F., Asst. M. C. B., Swift Car Line, Arlington.
 Cross, W. L., Asst. Rd. Foreman Engines, P. R. R.
 Crow, C., Insp., P. R. R., Dennis.
 Davidson, W. W., Gen. For., P. R. R., Whittle.
 Dawson, E. A., Mgr. Union Line, Penna. R. R., Dennis.
 Deeter, Harry E., Ins. Shops, P. & R., 21 S. Arkansas Ave.
 Dell, F. C. J., Vice-Pres. Office, Interborough R. T. Co., Ostend.
 Deyo, L., Clerk Pur. Dept., N. Y. Cen. & H. R. R. R., Young's.
 Driscoll, F. E., Clerk, Purchasing Dept., Erie R. R., Strand.
 Esterley, E. C., Clerk, Mech. Dept., A. R. Co., Young's.
 Farrady, W. H., Ch. Cl. to V. P., P. R. R., Brighton.
 Farrell, J. F., Pur. Agt., Michigan Central R. R., Shelburne.
 Farrington, A. S., Special Oppr., Reading, Monticello.
 Farrington, R. J., Genl. Foreman, Reading R. R., Monticello.
 Frauenthal, B. W., Sec. St. Louis Ry. Club, Sewickley.
 Faust, L. P. B., Fman. Shop, Penna. R. R., Biscayne.
 Fishe, Warren, H., Chief Engineer, Mexico Tramways Co., Chalfonte.
 Fuller, Harry C., Marlborough-Blenheim.
 Garland, Edward R., Clerk, Pur. Dept., Penna. R. R., Mullica.
 Gossler, Geo. S., Erect. Foreman, P. & R., Wellsboro.
 Garaghty, W. C., Air Brake Inspector, B. & O., Ryder.
 Gardner, G. C., Genl. For. M. P., Penna. R. R., Dennis.
 Henry, W. W., Ch. Cl., Store Dept., P. R. R., Chalfonte.
 High, O. K., Foreman Machine Shops, N. Y. P. & N.
 Hodges, H. B., Pur. Agt., L. I. R. R., Shelburne.
 Hogen, C. C., Supt., Standard Oil Co., Young's.
 Holmes, Harry, Pas. & Frt. Agt., Atlantic City Ry.
 Holst, W. A., Chief Clerk, Union Tank Line Co., Young's.
 Hornig, E. O., Secy. to Gen. Pur. Agt., N. Y. Cen. Lines, Young's.
 Howe, W. C., Supt., P. A. & McK. R. R. R., Marlborough-Blenheim.
 Hudson, W. R., Gen. Supt., Nov. Southern, Marlborough-Blenheim.
 Hughes, J. E., Genl. Yardmaster, P. & L. E. R. R., Francis.
 Hugus, Geo., Foreman Car Shop, Atlantic Ref. Co., Young's.
 Jackson, L., Secy., S. M. P., Penna. R. R., Jackson.
 James, C. H., Supt. Car Shop, S. O. Co., Young's.
 Jones, W. F., Genl. Stkp., N. Y. Central, Young's.
 Josias, H., Purchasing Agent, Cuba R. R. Co., Brighton.
 Keegan, Geo., Asst. to V. P. & G. M., Interborough Rapid Transit Co., Ostend.
 Keim, G. W., Supt. Car Shop, Atlas Ref. Co., Young's.
 Keim, A. W., Foreman Car Shops, Atlas Ref. Co., Young's.
 Kelly, R. J., Foreman, Long Island R. R., Shelburne.
 Koch, George B., Foreman Test Dept., P. R. R., Windsor.
 Lambert, W. H., Chief Inspector, Union Tank Line Co., Young's.
 Long, M. A., Architect, B. & O. R. R., Traymore.
 Luke, W. I., Gen. Storekeeper, Norfolk Southern, Iroquois.
 Lewis, E. E., Foreman, P. R. R., New England.
 McCarthy, J. H., Mat. Agt., Penn. R. R., Young's.
 McCracken, J. T., Supt. Printing Dept., Interboro R. T. Co.
 McElroy, F., Asst. to Chief Clerk, Union Tank Line Co., Young's.
 McGary, A., Chief Electrician, N. Y. C. & H. R. R. R., Young's.
 McHenry, W. E., Auditor, Cambri Terminal R. R., Seaside.
 McIntosh, F. G., Supt., A. R. Co., St. Dennis.
 McMunn, W. R., C. C. Supt. R. S., N. Y. C., Young's.
 Maurer, W. R., M. E., N. Y. N. H. & H., Haddon Hall.
 Macklin, H. C., P. Agt., Seaboard Air Line, Haddon Hall.
 Mackrow, H. A., Asst. Chief Clerk, Union Tank Line Co., Young's.
 Merkel, A. L., Foreman, P. & R. Ry.
 Miller, B. E., Master Painter, D. L. & W. R. R., Traymore.
 Moran, E. L., Foreman, B. & O., Windall.
 Morgan, D. C., Vice-Pres., P. & Shawmont, Muncester.
 Neubauer, J. G., General Manager, Solar Refining Co., Young's.
 Nichols, I., Foreman Car Shop, Solar Ref. Co., Young's.
 Nichols, Howard M., Asst. Supt., Standard Oil Co., Young's.

Orcutt, R., Spec. Representative, Erie, Marlborough-Blenheim.
 Paden, Charles, Foreman Car Shop, Vacuum Oil Co., Young's.
 Parker, E. W., For. Erect. Shop, Penna., Continental.
 Phillippe, B., Pemberton, Coal Agt., Pur. Dept., P. R. R., Shelburne.
 Plummer, W. P., Pur. Agt., Mexico Northwestern Ry., Chalfonte.
 Rankin, Robt., Sec'y., C. N. O. & T. P., Private Car, Penna. R. R. Tracks.
 Reed, P. L., Inspector Pur. Dept., P. R. R.
 Reese, D. W., Foreman, P. & R., Monticello.
 Renker, C. H., Gen. For., D. & H.
 Reifsteck, A. W., Secy., G. S. M. P., Illinois Central Ry., Young's.
 Roberts, G. S., Test Dept., Penna. R. R., Penhurst.
 Roach, J. J., Smith Shop Foreman, B. & O. Ry., Young's.
 Root, J. J., Jr., Draftsman, Union Tank Line Co., Young's.
 Ross, W. H., Chief C. to Genl. Stk., N. Y. Cen., Buckingham.
 Salt, H. S., M. M., Brazil Rwy., Chalfonte.
 Scatchard, H., North & West Roanoke, Young's.
 Schwag, M., M. M., Armour Car Lines, Marlborough-Blenheim.
 Scott, Harry C., Machine Foreman, P. & R. Ry., Young's.
 Smith, A. E., Mechanical Engineer, Union Tank Line Co., Young's.
 Smith, Adam F., Stkpr., P. & R., Hamilton House.
 Small, J. F., Ch. Clk. Pur. Agt., Norfolk Southern Ry., Iroquois.
 Spratt, Thos., Asst. Pur. Agt., Norfolk & Western, Traymore.
 Sorge, K. B., Special Appr., Reading, Monticello.
 Spangler, J. W., Foreman Car Shop, P. R. R., Dennis.
 Stull, H. W., For. Machine Shop, Reading, Monticello.
 Stone, H. L., Asst. Supt. Car Shop, S. O. Co., Young's.
 Stenger, A., Foreman, P. R. R., Largemont.
 Thompson, D., Loco. Inspector, B. & O. R. R., Schlitz.
 Thorpe, C. N., Foreman Car Shop, Standard Oil Co., Young's.
 Warner, F. R., Shop Foreman, B. & O. R. R., Whitley House.

FOREIGN RAILWAY NOTES.

The proposed company for the North Eastern Railway has been favorably considered by the Russian Council of Ministers. The object of the company is to construct and exploit two railway lines intersecting each other near the station of Egorschin; the first line going from Ekaterinburg to Santkoff in the Tobolsk government, the length being about 200 miles. The second line begins at Alapaieffsk to finish at the station of Bogdanovitch on the Perm Railway: length about 85 miles. The capital it is proposed shall be issued in shares, \$1,400,000, and government guaranteed 4 per cent. debentures, \$15,000,000. The specific object of this system is to serve the mining interests of the Ural mountains, and it will also serve to bring the famous Irbit market town into closer communication with the business world.

The Argentine government, through its Minister of Public Works, has authorized the following lines to be opened to public service: Buenos Aires to Pacific Railway—branches from Ramales de Maza to Tres Lomas, and westward for 22 miles; Mendoza to La Cumbre, in the part between Las Cuevas and the tunnel; Rawson to Arribenos, 37 miles, from July 1, 1911. Central Argentine Railway—from Las Rosas to Monte Grande, 20 miles; Canada de Gomez southwestward, 18 miles; Carmen northwestwardly, 17 miles. Southern Railway—from Alvear to Olavarria, 63 miles, and branch from same between kilometer 5, the south shore of the Riachuelo and the central produce market; from Mar del Plata to the Atlantic coast, 2 miles, and Florencio Varela to Ezpeletea, 4 miles. On July 31, from Pringles to Corhuc, 92 miles; Cooper to Cristiano Muerto, 40 miles; from September 20, Alvear to Pigue, 65 miles, and between Alvear and Recargo, 42 miles; from December 31, between Constitucion and kilometer 5, and on April 30, 1912, the Mar del Plata station. For immediate service, Buenos Aires to Rosario, 235 miles; from Salliquelo, 85 miles; to Asturias of the line to La Plata, 55 miles; branch to Ludeña, 8 miles; branch to Mataderos, 13 miles; branch from Pergamino to Vedia, 75 miles. Central Cordoba—from July 31, the branch to Rio Ceballos. Northern Argentine Railway—from Santo Tome to Posadas, 55 miles.

THE ANNUAL BASEBALL GAME.

The proud and haughty baseball banner of the effete East was captured and dragged through the dust by those redoubtable Westerners at the Inlet Park grounds last Saturday afternoon, and the score of East, 15, West, 1, made last year, was joyfully revenged. At the end of the fourth inning, which settled it that the game could not be called off, and in which Wildin broke his bat, the score was 7 to 5 in favor of the East, and the eastern rooters sent up to the gods of the weather loud cries for rain.

But, like the gods of the priests of Baal in the scriptures, those whom the East petitioned were, perhaps, deaf, or gone on a long journey, or, mayhaps, indisposed to heed the appeals of the wicked. At any rate, the rain didn't come; the game went on; the score went up to East, 9, West, 5; and then those terrible Westerners—Snow, Midgley, et al—fell on those effete Easterners; at the end of the sixth it was East, 11, West, 12; at the end of the first half of the

looking procession that ever marched to one of the annual ball games in connection with these conventions. Mayor Stoy, of Atlantic City, led the van, followed by a squadron of the city police. Then came the baseball band, 14 in number and especially organized for the occasion, arrayed in white sacque coats, cut low, with wide lapels, white serge trousers with cuffs—both coats and trousers being decorated with white pearl buttons—and white felt hats, white canvas shoes and blue neckties. They looked mighty fetching, did those band boys.

The ball teams followed, looking distinctly professional in their nice new uniforms. The western players had white flannel shirts, with blue collars, blue bands down the front, and short sleeves with blue edges, and had the letter W on the left breast. Their knickerbockers were of white flannel, with a blue cord down the outer seams; their stockings white, with blue stripes; their caps white, with blue seams, blue buttons on top and blue visors.

The eastern players wore white flannel shirts, with red



The Parade on the Boardwalk.

seventh it was East, 12, West, 22; and darkness closed over the field of carnage.

Because, owing to darkness, the game was stopped at the end of the first half of the seventh, the 10 runs made in it were not included in the official score, which was announced as 11 to 12. But the loud explosion made by the eastern team when it blew up in the seventh will continue, just the same, to cast down the spirits of the East and to gladden the hearts of the West. The baseball band persistently played "O, Lord, How Dry I Am." The East regarded it as referring to the weather. If it had only rained at the end of the fourth or fifth—but it didn't until some time afterward!

It was a fine parade, a bully band—of its kind—a big crowd, and a corking game—also of its kind. The official score, likewise, looks quite respectable; but, considering the way things were going toward the last, the Lord only knows what it would have been like if nine innings had been played.

The parade began forming at the Million Dollar Pier at 2 o'clock in the afternoon. It was the longest and finest

collars and red bands down the front; short sleeves, with red edges, and had the letter E in red in a red circle on the left breast; white flannel knickers, with red cords down the outer seams; white stockings, with red stripes, and white caps, with red seams, red button on top and red visor.

The ball clubs were followed by teams of girl rooters, led by masculine cheer leaders. The costumes of the ten western rooters were white serge coats, skirt length, with blue collars, blue cuffs and large pearl buttons on the front of the coats and on the sleeves, and those of the eastern rooters were white serge coats, skirt length, with red collars, red cuffs, large pearl buttons on front of coat and sleeves.

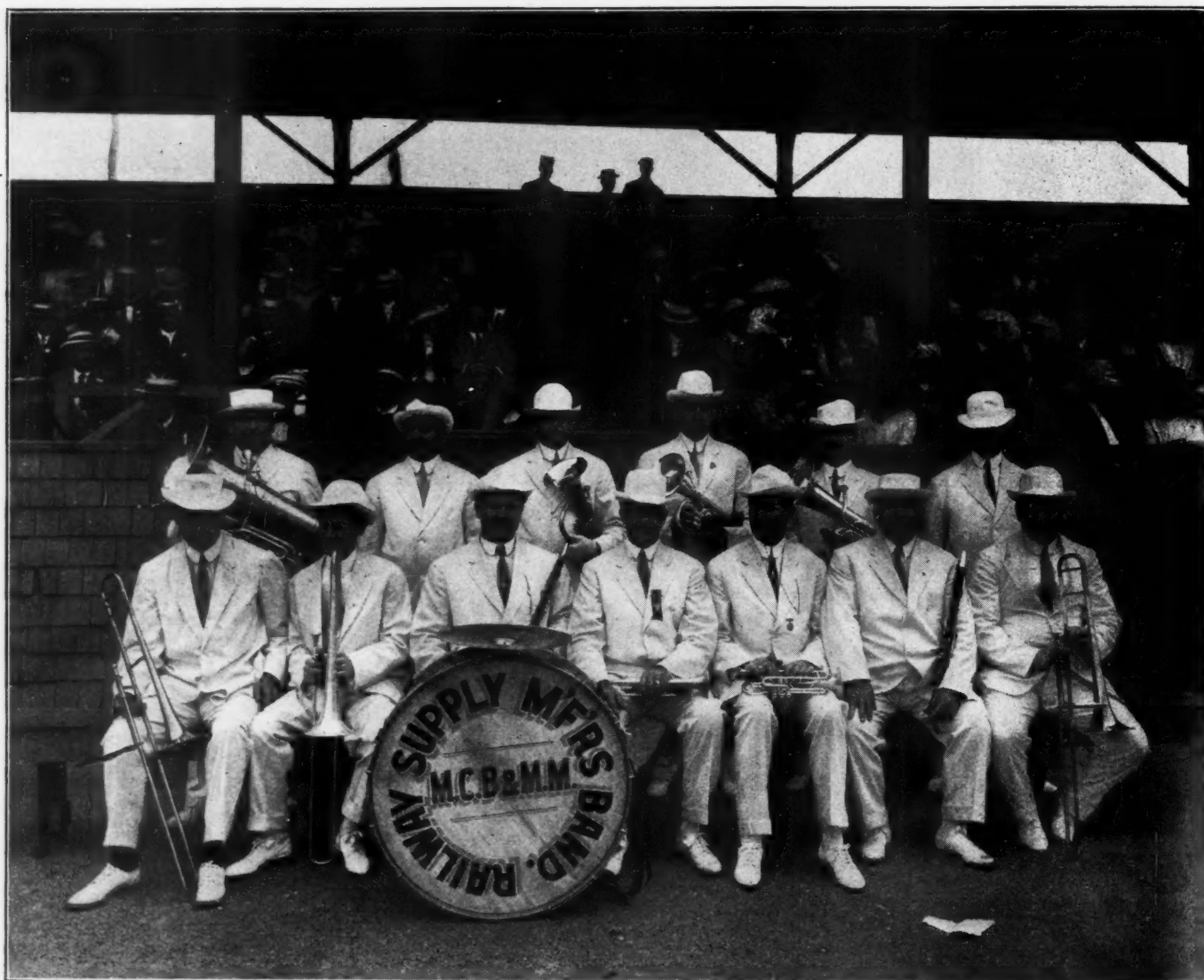
The shade of blue used in the trimmings of the western ball team's uniforms and in the costumes of both teams of rooters was identical with that officially adopted by the National Baseball League.

After the teams of rooters, came hundreds of conventionites marching double file, and hundreds more being wheeled in roller chairs. It was a glorious summer afternoon when the parade started. The sun shone brilliantly on the white of the uniforms; and yet it was not too hot to



The Rooters' Teams.

*Standing, left to right—Harry Fuller (western cheer leader), Mrs. L. R. Phillips, Miss Edith Tewkesbury, Mrs. S. W. Midgley, Miss Verona Pratt, Mrs. A. L. Whipple, Mrs. R. H. Weatherly, Miss Lydia Brannon, Miss Virginia Garstang, R. B. Steel (eastern cheer leader).
Seated, left to right—Miss Helen Grove, Miss Elizabeth Magraw, Mrs. W. S. Furry, Miss Mabel Garstang, Miss Clara Furry, Mrs. B. H. Forsyth, C. E. Fuller, Jr. (western mascot), Harold E. Oviatt (eastern mascot), Mrs. A. C. Langston, Miss Helen Little, Mrs. R. W. Barnett, Miss Mary Walsh, Miss Hazel Cumback.*



The Base Ball Band.

*Front row, left to right—Rosser, Violand, Bryant, Sharp, Taylor, Bird.
Bottom row, left to right—Wilson, Gault, Sreda, Johnson, Ross, Pilliod, Segrey.*

make walking unpleasantly warm. Never, perhaps, during convention time did the Boardwalk present a more gala appearance, or did a merrier crowd march along on it. And the convention baseball parades have sometimes been led by bands which, viewed from a purely æsthetic standpoint, could make more tuneful music, but never was one led by a band whose music was more enjoyed—at least by those

have been ample in past years, were provided, but the crowd was so unprecedentedly large that they were filled to overflowing. Those new musicians were certainly stuck on their jobs. They tooted and thumped their bloomin' instruments all the way to the grounds. Homer—or whoever it was—wasn't more assiduous—and hardly less musical—in thumming his bloomin' lyre.



The Eastern Ball Team.

*Top row, left to right—Pellitier (score keeper), Oviatt, Gilman, Jones, Martin, Wildin, Fettinger (score keeper), Passmore (umpire), Molleson.
Middle row, left to right—Knill, Stephenson, Jeffrey, Hibbard, Nellis, Bradford, Beaumont, Nicol, O'Brian, Cade (umpire).
Bottom—Oviatt, Jr. (mascot).*

who made it. Home-made cake, made by a brand-new wife, often is not as digestible as baker's cake; but it often is liked a lot better by the fool man who eats it. It is the same with home-baked music. Really, the music wasn't bad at all; but if it had been worse the crowd would have enjoyed it almost as much, just because it was home-grown.

The procession marched to New York avenue, and there special cars were taken to Inlet Park. Cars, which would

The crowd that poured into the grand stand, on arrival at the grounds, pretty comfortably filled it. On the left of the grand stand there was also a large number of automobile parties. The eastern team of rooters, which was led by Cheer Leader R. B. Steele, of the American Vanadium Company, was seated on the right of the grand stand, and the western team of rooters, led by Cheer Leader Harry Fuller, a son of President Fuller of the Master Mechanics'



The Western Ball Team.

*Top row, left to right—Passmore (umpire), Molleson, Sechrist, Bowles, Allen, Fettinger (score keeper), Cade.
Middle row, left to right—Knill (chairman), Snow, Midgley, Hammond (captain), Tarleton, Forsyth, Downing, Potter, Schwartz.
Bottom Row—Gallinger, Fuller, Jr. (mascot).*

Association, was seated on the left hand side of the grand stand.

The band was stationed between them. It speedily grew reckless about the present state and future prospects of its soul and began to play "What the H—— Do We Care!" There was no place handy at which to wet its collective whistle after this exertion; and Leader J. Will Johnson struck up "O Lord, How Dry We Are," in which the other musicians joined with hearty alacrity and which they made the favorite ditty of their repertoire.

The West went first to bat, with Jeffrey pitching and Oviatt catching for the East. When the East came to bat Bowles, pitcher, and Gallinger, catcher, composed the West's battery. Jeffrey was wild at first, but he rapidly warmed up, and before the second inning was over was pitching good ball. At the beginning of the sixth inning, when the score was West, 5, East, 9, Captain Nellis took him out and put in Bradford. The westerners soon got onto his curves, and began to wallop the ball all over the field. The easterners never did get so familiar with Bowles's throwing. In consequence at the end of the sixth, while the westerners had raised their score to 12, the East had increased its runs only to 11. Martin was substituted for Bradford, but those westerners also speedily landed on him. Bowles pitched throughout for the West and, like Jeffrey for the East, did a thoroughly workmanlike job after he got well warmed up.



Oviatt Ready to Swat for His Boss.

An incident of the game which will go thundering down baseball history to the remotest ages happened when George Wildin broke his bat. It was in the second half of the third inning. O'Brian and Stephenson were on bases. Then up stepped the mighty Wildin. A hush fell over the field. The great Wildin looked defiance at Pitcher Bowles, and Pitcher Bowles looked some considerable defiance at him. Then Bowles let 'er drive. The sphere bizzed through the air. There was a terrific crash. And then the fragments of the mighty stick of the Mighty Wildin went sailing through the circumambient atmosphere, one piece chasing the ball over Bowles's head out toward center field. The crowd jumped up and yelled its head off; the band played "Hail to the Chief," the cheer girls set up loud cries for pieces of the historic stick for souvenirs; and the Great Wildin circulated around the bases like a son-of-a-gun. If Wildin's bat hadn't broken the ball would be going yet.

As the game progressed the members of the band grew drier and drier, and, at last, between the halves of the fourth, W. W. Rosser, Joe Taylor and Charles J. Pilliod marched out into the diamond playing their favorite air.

There were very few disputes that amounted to anything. One was in the first half of the sixth inning, when Umpire Cade called Gallinger out for turning to the left on rounding first base. Midgley and other western players objected vigorously to this ruling, and it was incorrect, as Umpire Cade subsequently conceded. However, as the West won, anyway it did no harm.

The following is a somewhat detailed account of the game by innings:

FIRST INNING.

The hostilities began with the West at bat and Tarleton up. Pitcher Jeffrey almost beamed him with the first thrown ball, but he ducked it shiftily. When Jeffrey thoughtfully hesitated about shooting again, some fan yelled, "Throw the ball, and play to-morrow." Jeffrey evidently had a slight case of stage fright and was wild, and Tarleton walked.



The Band in Action.

Potter was next to bat, and made a one-base hit. O'Brian tried to stop Tarleton at second, but was unsuccessful in his effort to catch the ball with his shin, and Tarleton finally scored. Midgley made a one-bagger to center, and Snow poled a long drive between second and third. Bowles walked. Gallinger distinguished himself by being the first batter to fan, and he vainly beat the air on a third strike several times afterward, just as a pneumatic tool man consistently should. Jeffrey continued wild throughout the inning; but, as later developments showed, he was just warming up to his work.

Baumont was the first batter for the East, and Bowles, who was pitching for the West, promptly pickled him on



Heckling the Umpire.

the patella, which gave him first. Hibbard fouled, and was caught out. When O'Brian failed to hit it, somebody yelled: "Get a tennis racquet," and when he tried to get to first on the ground that he had been hit with a pitched ball, the Western crowd bawled, "Baby, baby!" This made him mad, and he hit 'er hard to left. He got caught off second, but by a pretty slide got back safely. Stephenson struck out. When Wildin came to bat the crowd cheered wildly, and a bunch of eastern rooters sang: "Every little railway has a movement all its own." He was nicked on the wrist and

given first, which caused him to throw away his bat in mighty disgust. Martin made a hit into left and brought in O'Brian. Wildin, in trying to steal third, ran like a Mallet with a down hill pull, but got caught 30 feet from the base.

SECOND INNING.

Tarleton started the second inning with a foul into the grandstand. Oviatt covered yards of ground to get Tarleton's foul, but missed it, and the crowd advised him to acquire a basket. Stephenson in center was waiting for Tarleton's high fly and copped it. Potter almost knocked a hole in the fence, got safely to first, and finally scored. Midgley patiently waited for a good one and swatted it past the short stop for a single. He made a beautiful slide to second, but missed his connection with the bag and O'Brian touched him out, incidentally yanking his left leg to right angles with his right one. Snow found the sphere, as usual, as did Bowles also, but Bowles



Tarleton was First at Bat.

got caught at second, putting the western team out, with one score for the inning.

Oviatt come first to bat for the East, and hit a slow one to short stop. Tarleton threw him out at first. Jones repeated the play made by Oviatt and also was thrown out at first. Schwartz, playing first, made a beautiful recovery of a high throw in time to get his man, and Bowles, now using great speed, struck out Jeffrey on three pitched balls, and retired the side.

THIRD INNING.

Sechrist, Schwartz and Gallinger were mowed down in rapid succession, no scores being made.

The pitchers had now warmed up to their work and both teams were playing good ball. Beaumont fanned the air for the second time and Passmore said "Strike 2." The next looked like a bad one, but Passmore called the batter out on three strikes. Hibbard lined a beauty to deep center that would have been good for a home run had it not been for the fence. He got two bases. O'Brian pasted the first ball pitched to deep left, on which Hibbard raced home, O'Brian reaching second on the throw in. Stephenson hit for a single in short left and reached second when a play was made for O'Brian at third, both batters being safe. Then came the historic incident when Wildin hit 'er with such might that he broke his bat. He lined the ball out to center and reached third base when the sphere was thrown past the catcher, Stephenson and O'Brian scoring ahead of him. Wildin followed over the plate on the next ball, which

was a wild pitch. Martin sent a high fly that was taken in left field. Oviatt hit a high bouncer to third base on which he reached first safely. Jones struck out under protest, retreating the side.

FOURTH INNING.

Downing walked to first on four balls. Downing had second base stolen, but in his anxiety, overran the bag and was touched out by O'Brian, who straddled him to keep him from escaping. Tarleton fanned on trying to dodge a fierce inshoot. Powers hit a swift grounder to short stop, but was thrown out at first.

Jeffrey tried twice to bunt his way to first, but failed. He then went out on third strike, but had to be thrown out, as the catcher dropped the throw. Beaumont was hit with the ball and walked. He got all the way around to third on passed balls and wild throws. He scored when Hibbard was thrown out at first by Midgley. O'Brian hit an easy grounder to short stop and was thrown out at first.

FIFTH INNING.

Pitcher Jeffrey objected to a used ball and was given a new one. Midgley hit to deep center, but the ball was gathered in by Stephenson. In his eagerness to get to first, Midgley fell and got the laugh. Snow hit one so fast through short that the short stop couldn't see the ball, and got two bases by a beautiful slide to second. He stole third without even drawing a throw from the catcher. Bowles struck out, and the side was retired when Sechrist hit a fast grounder to short and was thrown out at first.

Stephenson hit a fast ball through the pitcher. Midgley made a fine throw, but the runner beat it out and was called safe at first. Immediately afterward Stephenson's snoring at first attracted the pitcher's attention, and when the base runner awakened he was out. Somebody yelled, "Get an alarm clock." Wildin hit an easy roller to the second baseman, who had plenty of



Schwartz Expectant.



Sechrist, the Ex-Giant.

time, but who made a wild toss past first base, on which Wildin, running like a New Haven electric engine, reached second. Martin hit a fast one down to second and was safe at first, Wildin advancing to third. Martin stole second without drawing a throw. Oviatt, used to the every day job of assisting his boss, Wildin, now hit a swift one down to short stop; Tarleton lost his balance and threw the ball home too late to catch the

runner; and Wildin arrived home. Oviatt went to third and Martin scored on two wild heaves. Flemming, batter in place of Jones, hit a weak grounder to the pitcher and was thrown out at first. Jeffrey hit a slow one to short stop and was thrown out at first on a close play.

SIXTH INNING.

Southpaw Bradford was now put in the box for the East. Schwartz hit a liner to left field. Flemming allowed it to go through his legs, and it went for a three base hit. Gallinger dropped an easy roller to Bradford, the pitcher, who held his man at third and then threw wild to first, Schwartz scoring and Gallinger going to second. Gallinger was called out by Umpire Cade for turning to the left on rounding first base. Midgley and other Western players violently protested that that rule is now obsolete, but Cade stood pat, and Gallinger had to walk to the bench. Captain Hammond, who was now in the game, hit a single to right field and was safe at first. Downing followed with a single and all

the second out. Flemming hit a smooth bouncer straight to First Baseman Schwartz and was out at first, retiring the side with the bases full.

SEVENTH INNING.

Hammond made 6 fouls in rapid succession, his fondness for poultry suggesting that at some time he had been a Methodist parson. He finally hit a short fly ball that was gathered in by the catcher. Tarleton hit an easy roller to second base, but was safe on an error by First Baseman Wildin. Tarleton stole second on a wild throw to catch him napping at first. Jones took Wildin's place at first, Wildin's finger having been split by a thrown ball. Potter hit for a double to left and reached first on a bad throw.

Tarleton scoring. Midgley walked to first on four wide ones, and went to second on the first ball pitched without drawing a throw. Snow nailed it, and Flemming muffed it, Potter scoring and Midgley going to third. Bradford went to second on the throw in. Bowles bunted safely and the bases were full. Sechrist hit a slow little sneaking safe



If Nollis HAD Played.



Bowles Ogling a Bee-Liner.



He's a Warm Snow.

hands were safe, Downing running to second on the throw in. Tarleton hit safely. Potter tried to hit the Durham bull sign, and almost did so. Midgley hit safely, as did Snow and Bowles. Sechrist and Schwartz singled. Gallinger struck out, retiring the side, and seven juicy runs were checked up for the West.

George A. Nicol took Beaumont's place at the bat. He hit a slow grounder to short and beat it to first, stole second, and went to third on a passed ball. Hibbard hit a sharp grounder and raced to first, scoring Nicol. O'Brian hit past short stop for a single, sending Hibbard to second. Stephenson singled, advancing the runners. Wildin walked, filling the bases. Martin spoiled two good ones after having three balls and two strikes and drew a pass to first, forcing in O'Brian. Bradford struck out with the bases full, making

ball to third and everybody advanced a base. Schwartz struck out. Gallinger hit to Second Baseman O'Brian, who waited too long before throwing, and everybody was safe, the bases being still full. Hammond walked on four balls, Bowles being forced in for another run. Tarleton batted for the second time during the inning. Tarleton hit for a single and sent two men over the plate ahead of him. He reached second on the throw in and Hammond perched on third. Potter was beamed by a pitched ball and walked to first, filling the bases again. Midgley hit to left for two bases, Hammond and Tarleton racing over the plate. Snow knocked an easy grounder to third and the third baseman touched the bag, thinking that he could force Midgley who had been resting on second, but Midgley rushed back to second and all hands were safe, the bases still being full.



After Gallinger Had Thrown One.



O'Brian Beaming on the Pitcher.



Hammond Alert for a Fly.



Midgley on the Slide.



O'Brian on Top at Second.



Passmore Bossing the Job.

Bowles struck out, retiring the side with the bases full, and 10 runs were chalked up for this inning. However, they were not included in the official score.



Snow Winging it to First.

The following is the score by innings:

	1	2	3	4	5	6
West	4	1	0	0	0	7-12*
East	2	0	4	1	2	2-11

DETAILED SCORE CARD.

EAST.

	AB.	R.	1B.	PO.	A.	E.	SB.	SH.
Beaumont, 3b	1	2	0	0	1	0	2	0
Nicol, 3b	1	1	1	0	0	0	1	0
Hibbard, ss	3	1	1	0	3	1	0	1
O'Brian, 2b	4	3	3	3	0	1	0	0
Stephenson, cf, c.	4	1	3	7	0	0	0	0
Wildin, 1b	2	2	2	5	0	2	1	0
Martin, rf, 1b, p.	3	1	2	1	1	1	0	0
Oviatt, 1b	3	0	2	5	2	0	0	0
Jones, rf	2	0	0	0	0	2	1	0
Flemming, lf	1	0	0	0	0	0	0	0
Jeffrey, p, cf.	3	0	0	0	0	0	0	0
Bradford, p, 1b.	1	0	0	0	1	0	0	0
Total	28	11	14	21	8	7	5	1

WEST.

	AB.	R.	1B.	PO.	A.	E.	SB.	SH.
Tarleton, ss	5	4	2	1	3	0	1	0
Potter, 3b	4	4	2	0	0	0	0	1
Midgley, 2b	5	3	4	0	2	0	2	0
Snow, cf	6	3	3	0	0	0	3	0
Bowles, p	5	3	2	0	3	0	1	0
Sechrist, lf, rf.	4	1	1	1	0	0	1	0
Schwartz, 1b	5	1	2	8	0	0	1	0
Gallinger, c	5	1	0	8	1	0	0	0
Hammond, rf	2	2	1	0	0	0	0	0
Downing, lf	1	0	0	0	0	0	0	0
Total	42	22*	17	18	9	0	9	1

Earned runs—East, 11; West, 9.

Two-base hits—Hibbard, 1; Midgley, 2.

Three-base hit—Schwartz.

Bases on balls—By Jeffrey, 4; by Bradford, 0; by Martin, 1; by Bowles, 2.

Hit by pitcher—Beaumont, 2; Potter, 1.

Wild pitches—Jeffrey, 2.

Passed balls—Oviatt, 1; Gallinger, 2.

Struck out—By Jeffrey, 7; by Bradford, 3; by Bowles, 7.

Left on bases—East, 5; West, 6.

Hits off pitchers—Jeffrey, 4 in 5 innings; Bradford, 9 in 1 inning; Martin, 4 in 1 inning.

*The difference here shown is because the first half of the seventh inning was played, although not counted in the official score.



Just Before Wildin Broke His Bat.

The umpires were, West, H. E. Passmore, T. & Co.; East, W. E. Cade, Frank A. Barbey Co. The mascots were, West,

Charles E. Fuller, Jr.; East, Harold E. Oviatt. The official score card keepers were, East, Harry O. Fettinger, Clement Restein Co.; West, Louis Pelletier, Machinery.

The base ball band was composed of the following: J. Will Johnson (leader), Pyle National Electric Headlight Co., cornet; Charles J. Pilliod, Pilliod Brothers Co., B flat clarinet; Mark A. Ross, Pyle National Electric Headlight Co., cornet; George W. Bryant, Thos. Prosser & Son, alto; W. E. Sharp, Armour Lines, alto; W. W. Rosser, T. H. Symington Co., bass; Jos. W. Taylor, secretary, M. C. B. and M. M. Associations, baritone; Fred M. Nellis, Westinghouse Air Brake Co., slide trombone; C. W. Bird, Jenkins Bros., snare drum; F. L. Gault, Nathan Mfg. Co., slide trombone; Joseph Violand, Crane Co., bass drum; Philip Sreda, American Arch Company, E clarinet; L. F. Wilson, Railway List.

The rooters team for the West was led by Harry Fuller, and that for the East by R. B. Steele. The rooters were Mrs. L. R. Phillips, Miss Edith Tewkesbury, Mrs. S. W.



Wildin and the Fragments.

Midgley, Miss Verona Pratt, Mrs. A. L. Whipple, Mrs. R. H. Weatherly, Miss Lydia Brannon, Miss Virginia Garstang, Miss Helen Grove, Miss Elizabeth Magraw, Mrs. W. S. Furry, Miss Mabel Garstang, Miss Clara Furry, Mrs. B. H. Forsyth, Mrs. A. C. Langston, Miss Little, Mrs. Burnett, Miss Mary Walsh, and Miss Hazel Cumback.

The committee in charge of the game was composed of Charles M. Knill, chairman; Fred M. Nellis, Harry S. Hammond, Thomas Farmer, Jr., Herbert Green, W. S. Furry, and Frank Martin.

THE WINNING TEAM.

To the gallant winners of the struggle belong rightly the honors of victory. It will be of interest to recount the previous base ball history of its members and their early training to reach the pinnacle of fame which they achieved on Saturday.

Hammond (captain) thought more of base ball all through his school days than any other game. He was on every team on which he could get a place and preferred first base. His last playing was in a county league embracing the city of Pittsburgh, in which he lived.

Midgley had four years on a team in the Cook County (Illinois) league, being its captain the last two years; was three years on the Lewis Institute of Technology (Chicago)



The Batter Beat Stephenson to It.



Downing Telling How it Happened.



Midgley on His Way.

team, of which he was captain; and has played the past nine consecutive years as a member of the Western team at the M. M. and M. C. B. conventions.

Bowles pitched four years on the Cornell University team, and was its captain in his senior year.

Tarleton played second base in the Weatherly, Pa., team in the Lehigh Valley league. The team was the champion and flew the pennant during the two years in which he was on it.

Snow was one of the greatest all-around athletes of the University of Michigan. He was a leading foot ball and base ball player in his four years there; captained both teams, and was picked by Walter Camp for the 1901 All-American foot ball team.

Potter was a member of the Nassau team of Princeton College for three years.

Allen was third baseman three years in the Beloit, Wisconsin, college team in the Western league.

Forsyth was captain of the Bankers' Athletic Club (Chicago) team in the Bankers' Base Ball league for two years.

Downing played ball "just for fun," as he says, in and around Toledo, Ohio.

Schwartz was with the Davenport (Iowa) team in the Three-I League for three years.

Gallinger was with the Watertown (Wisconsin) team for two years.

Sechrist was with the Cincinnati (professional) team in



Forsyth Rooting on the Side Lines.



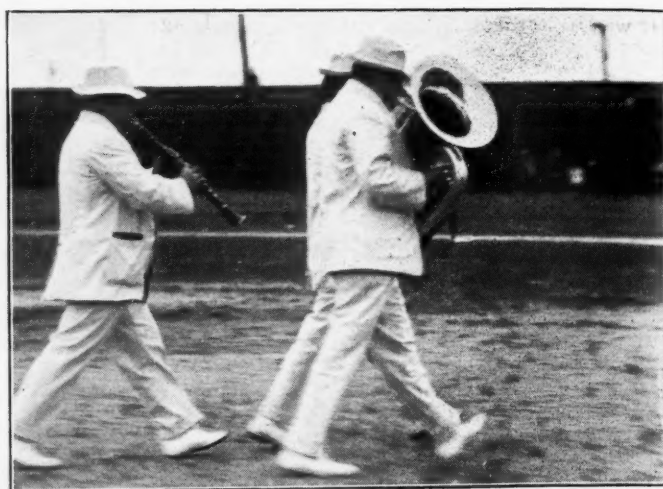
Few Escaped Potter.



Jeffrey a Little Wild.



Forsyth Meant Well.



"O Lord, How Dry We Are!"
 (Rosser, Taylor and Pilliod on Parade.)



Cade Watching It.



Gallinger Expecting It.



Beaumont Swatting It.



Midgley Putting It on Martin at Second.



E. adford Wondering if It's Foul or
 Fair.

1894; was with the New Orleans (Southern League) team in 1894-95 as pitcher; with the Norfolk, Va., team in 1896, when it won the pennant; was on the New Bedford, Mass., team in 1897; on the Hartford, Conn., team in 1897, and was drafted by the New York Giants in 1899.

NOTES OF THE GAME.

The base ball band did all its practicing in Chicago up to the time it arrived in Atlantic City. It began its practice work—and it was work, believe us—in a Masonic lodge room

on the south side in Chicago. The neighbors finally raised such a rumpus that it had to move to the office of W. E. Sharp, of the Armour Car Lines, in the Union Stock Yards; and there most of its repertoire was learned. Joe Taylor says the neighbors at the stock yards did not protest, mainly because the noises it made harmonized so well with those to which they were accustomed.

Beaumont is certainly an enthusiastic worker. He keeps



A Few of the Fans.



Nichol Defying the Pitcher.



Oviatt After a Bounder.



Sorrowful Wildin and His Broken Bat.

on practicing, not only up to the game, but even during the game. Along about the fourth inning he practiced a slide to third, the ball not having yet left the center fielder's hands.

Did you ever have more than one ball when you met up in the vacant lot over by the grocer's? Where would our race be if we did not revere the memories of our youth? So we applaud the committee for upholding tradition of democratic simplicity in providing only two base balls for the game.

George Wildin took off 35 lbs. in the five weeks he practiced for the game, but he kept enough weight to insure a high factor of adhesion. There was no wheel slipping when he wanted to get under way.



Anyway, the Mascots Remained Friendly.



The Scene of the Hostilities.

Bert Waycott did his best to have the banjo playing seals included in the band, but on second thought he decided that there were enough of that kind of players in it without them.

Oviatt, junior, warmed up Oviatt, senior, on the sidelines; and it looked as if he might be able to whip the old man in a game of burn out.

The public little knows what a catastrophe the breaking of that bat was. We found Mr. Wildin clasping to his bosom such splinters as he had saved from the souvenir hunters. We dried his tears and begged him to tell us all. "It was one among a thousand," he said, at last. "I knew it when it was young; only big enough to play one-o-cat with. With loving care I trained it up and taught it all I knew. There will never be such another."

The two ball teams and the western and eastern teams of rooters went to and returned from Inlet Park in a handsome new Electric Car furnished through the courtesy of A. A. Thresher, Chief Engineer of the Federal Storage Battery Company. The car, of double truck design, was sent under its own power from Jersey City to Atlantic City especially for the occasion.

SOME "IFS" BY THE EASTERN TEAM.

Were the players on the Eastern team to give voice to their feelings after Saturday's game, they might individually be quoted as follows:

Pitcher Jeffreys: If Nellis had let me finish the game I would have given them goose eggs to the end.

Pitcher Bradford: If those Westerners aren't the hardest hitting bunch I ever saw, I'm no judge.

Harry Oviatt: If there's any more ball playing for the Oviatt family the kids'll have to do it.

George Wildin: If my bat hadn't broke they would have had to field the ball from the Inlet in a row boat.

Tom O'Brian: If we had only half the luck the westerners had we would have won hands down.

Leonard Hibbard: If that wasn't the roughest diamond in the neighborhood, I'd like to see the worst.

Cliff Beaumont: If I hadn't been hit on the knee with a pitched ball, I'd been able to play my game.

"Bart" Stephenson. If those Chelsea hoodlums hadn't hoodooed my bat I would have had a home run each time up.

Fred Jones: If I'd known the game was to have class, I'd have trained harder.

Frank Martin: If I'd done all the pitching those westerners would have had a string of goose eggs.

Capt. Fred Nellis: If I'd had a second fly I suppose I'd have muffed it like I did the first.

George Nichol: If I'd only reduced ten pounds more in weight, I'd have played my old game.

Charlie Gilman: If that fly had been a little closer I think I could have caught it.

The team in chorus: If we could only play the game over again we would surely win.

Retrospect is generally interesting, especially when applied to an important event like Saturday's base ball game and given by the head of the defeated team. We quote an opinion expressed by Captain Nellis of the Eastern team substantially as follows: "We lost because the Western team played better ball in general. They went up into the air early in the game, but came down in reasonable time. We delayed our ascension, but when once up nothing could bring us down except the calling of the game. Jeffrey was a trifle wild in the opening inning, but soon steadied down and pitched gilt-edge ball. He had found the curves the Westerners could not hit and was successfully feeding them up when he gave way in the sixth to Bradford, according to an agreement between the two when they "signed up" that

each should pitch his half of the game. Jeffrey's disappointment was keen, I know, but as the game was one of good fellowship and not solely to win, the agreement between the two pitchers compelled Jeffrey's retirement at a time when he was going strongly at his best. Under other circumstances it would have been inexcusable to take out a winning pitcher. In the sixth inning a break of luck in the Westerner's favor and weakened support by the Eastern team wrongly reflected against Bradford's work. Many of the batted balls were either fumbled, poorly fielded or actually muffed, as an analysis of the game will show; further, I believe the three retired batters in the sixth inning were put out on strikes. Beaumont, one of our best players, was struck by a pitched ball on the knee in the first inning and was obliged to retire in the fifth because of the injury. Wildin also retired in the fifth because of a split finger. Martin, who relieved Bradford, received a little better support and finally succeeded in stopping the Westerner's fierce batting rally."

SOCIETY AT THE GAME.

Society was out in full force for the great occasion. Gaily decorated automobiles and roller chairs, with flying flags attached, carried many of the "400" from the pier and the Boardwalk hotels. At the Inlet Park the automobiles were stationed along the west side of the park adjoining the grand stand.

Among the many parties in automobiles noticed by the society editor of the *Railway Age Gazette* and his corps of assistants were the following:

Mr. C. L. Mellor, Mr. and Mrs. C. E. Fuller, Miss Mary Fuller, Mr. C. E. Fuller, Jr., Mr. Harry Fuller.

Mr. and Mrs. J. F. Walsh, Mr. and Mrs. R. T. Walbank, Mr. Frank J. Walsh.

Mr. J. E. Meek, Mr. and Mrs. C. C. Hubbel, Mr. and Mrs. J. C. Younglove.

Mr. and Mrs. Hugh Montgomery, Dr. C. W. Gould, Miss Ruth Gould, Mr. Clarence Rood.

Mr. and Mrs. Walter B. Leach, Mr. and Mrs. C. B. Young, Mr. and Mrs. R. D. Smith.

Mr. and Mrs. O. M. Edwards, Mr. and Mrs. E. F. Chaffee, Mr. and Mrs. C. M. Walsh, Mr. C. W. Edwards, second, Mr. W. A. Le Brun.

Mr. and Mrs. B. P. Flory, Mrs. F. O. Brazier, Mr. Charles H. Scarritt.

Mr. Edward E. Gold, Mrs. T. H. Russum, Mrs. W. S. Chamberlain, Mrs. Lloyd A. Sheatz, Mr. F. H. Smith.

Senator and Mrs. Clarence Wolf.

H. S. Hayward, Jr., A. V. Lyle.

C. Fred Elliott, Frank Sherritt.

Mr. and Mrs. W. A. Blanchard, Mr. and Mrs. Arthur S. Blanchard.

Mr. C. S. Hawley, Mr. W. S. Hammond, Mr. and Mrs. H. L. Hawley.

Mr. and Mrs. Clarke P. Pond.

Mr. Edwin H. Baker, Mr. C. C. Steinbrenner, Mr. Daniel M. Brady, Mr. Harry D. Vought, Mr. Frederick A. Guild.

Mr. W. O. Duntley, Mr. Thomas Aldcorn, night mayor of Atlantic City, Mr. George E. Molleson, Mr. Huntley Gilbert.

Mr. J. W. Dalman, Mr. Frank Moore, Mr. William Gibson, Mr. Robert A. Bole, Mr. Edward Kneeland.

Mr. J. R. Ellicott, Mr. and Mrs. Fred F. Small, Miss Sweet, Mr. A. L. Humphrey, Mr. T. L. Burton, Mr. S. J. Kidder.

Mrs. J. F. Deems, Mrs. J. E. Meek, Miss Carrie Emery, Mr. and Mrs. C. H. Boaz.

Mr. T. L. Dodd, Mrs. L. F. Wilson, Miss Alice Mooney, Mr. and Mrs. B. E. Clements, Mr. and Mrs. S. D. Gloss, Mr. Frank Cheesman.

Mr. C. R. Cummings, Mrs. Rebecca McKinley, Mr. F. D. Lyman.

Mr. and Mrs. D. F. Crawford, Mr. and Mrs. G. T. Ladd, Mr. and Mrs. C. D. Young.

Conventionalities.

Ask Bert Waycott if quality really is appreciated.

Both Staff and Allen had the nerve to say that the honors were wholly unexpected!

Conventions were invented to show a man what a really decent lot of fellows his competitors are.

F. W. Hodges, of lubricator fame, is one of the latest arrivals. He is staying at the Marlborough-Blenheim.

Dan Brady came down Thursday night, to borrow a pencil. Now that he's here, he'll probably stick around for a while and see the place.

Fred and Robert Shults, sons of Charles Shults, are making their first visit to these meetings. Mrs. Shults and Miss Marjorie are with them.

A. A. Burkhardt, assistant general foreman of the car department of the New York Central at West Albany, N. Y., came in on Friday to spend a few days.

George N. Sweringen, the famous and successful expert on convention balls, expresses unqualified appreciation and approval of the M. M. ball. George says, "It was chawming."

H. S. Demarest, who has been traveling through Germany, Italy and France for several months, leaves England for New York, June 24.

It will interest the friends of Robert J. Gross, formerly executive vice-president of the American Locomotive Company, to know that he is now president of the United States Radiator Company.

C. W. Cross, superintendent of apprentices of the New York Central Lines, returned to New York for one day to attend the graduation exercises at Pratt Institute, his son being one of the graduates.

W. G. Gove, superintendent of equipment of the Brooklyn Rapid Transit, made a hurried visit of twenty-four hours, for the sole purpose of seeing the exhibit at the pier. He was accompanied by his son, Kenneth.

Isaac T. Johnson is visiting the conventions for the first time this year, accompanied by Joseph M. Brown. Mr. Johnson is president of the Johnson Manufacturing Company.

W. P. Plummer, purchasing agent of the Mexico North-Western, spent Saturday here, presumably in order to get an idea as to what sort of base ball equipment to buy for peons to keep them amused when no revolution is going on.

J. W. Fogg, master mechanic of the Baltimore & Ohio Chicago Terminal, has a little girl about six weeks old, which has a fine head of hair and eyes to match those of its father.

James E. Forsyth, president of the recently organized Mid-Western Car Supply Company, who has been a regular attendant at the conventions for many years, was an early arrival. He is registered at the Chalfonte.

J. A. McRae, mechanical engineer of the Michigan Central, was not quoted just right in the discussion on main and side rods on Thursday, when he was reported as saying: "It is the practice on some roads to put a fillet on cranks." The words "side rods" should be substituted for the word "cranks."

D. O. Ward, Chicago, an old-timer at the conventions, who takes pride in the fact that he is a man of his word, yesterday claimed to have almost instantly recognized in the person of D. D. Mallory, of the Galena-Signal Oil Company, a boy-friend and school mate whom he had not seen in 40 years.

G. W. Rink, mechanical engineer of the Central of New Jersey, is another one of the small group of the younger men who are showing an active interest in the work of the association by taking part in the discussions on the floor of the convention.

This is Stanley W. Midgley's ninth consecutive year as a member of the Western base ball team. "Midge" has done fine work (tho' it's all play) for the West, having captained several winning teams; but he says that he will play only one year more, and then quit on account of old age.

Mr. and Mrs. W. E. Fowler and family will not visit the conventions this year and their absence will be noticed. This is on account of Mr. Fowler's health, which has not been good of late. He resided in Southern California all the past winter.

If you want to see an Irishman in action, just get Mike Franey, assistant master mechanic of the Lake Shore, to tell you about the forgings they make at the Collinwood shops. Poor Joe Chidley, in spite of his talking ability, cannot find a chance to get in a word and simply has to stand by and try to look pleasant.

Tiffany's window at Christmas never showed to brighter or better advantage than the imposing, scintillating, collection of badges on the manly breast of W. H. Bliss. This sparkling display is set off by a background consisting of a soft, but not too subdued, checked suit, and topped by one of the whitest felt hats at the convention.

Charles P. Williams, eastern agent of the Chicago Railway Equipment Company, and his near namesake, Charles H. Williams, Jr., of the same company, are again with us. Their abundant supply of cheerfulness and earnestness of purpose in the interests of their organization seems each year to be inexhaustable.

Prof. Edwin C. Schmidt, professor of railway engineering at the University of Illinois, is attending the conventions. He is registered at Haddon Hall. Prof. Schmidt is one of the university men who seldom miss the conventions; and the very practical and effective work he does is no doubt in large part due to this.

Among the government officers who have visited the exhibits was Admiral Schley. He and Mrs. Schley spent most of Saturday morning on the pier. After making a round of the exhibits under the escort of C. E. Postlethwaite, the Admiral and Mrs. Schley held a reception in the booth of the Pressed Steel Car Company, where they met a number of prominent railway and railway supplymen.

The *Daily* has been served with papers in a suit for libel. It seems that our statement about Alex. Brown's year-old Parisian importation was O. K.; but he declares most emphatically that he was not in Maxim's that night. His defense is merely a technicality. The truth is, it was the morning of June 18, to be accurate. Our expression, "the night of June 17," was a euphemism.

H. J. Bentley was reported as saying that tests on the superheater engines on the Chicago & North Western showed a saving of 35 per cent., when the paper on superheat was under discussion on Thursday. He really said 25 per cent.; but apparently the stenographer, or linotype operator, wanted to make it sound better, so increased it by 10 per cent.

H. J. Small, superintendent of motive power of the Southern Pacific, went earnestly to work immediately on his arrival, as has been his custom for many years. His counsel in the discussions of papers, and his informative views on mechanical matters are always listened to with interest. This year Mr. Small is accompanied by his sons, Charles and Albert, and his daughter, Miss Barbara Small.

On account of important business matters, J. E. Muhlfield will not be able to respond to the roll-call at Atlantic City this year. His non-attendance at the deliberations of both conventions will be felt by the members. Since the conventions of last year, Mr. Muhlfield has been appointed vice-president and general manager of the Kansas City Southern, a fitting tribute to his ability. He is now chiefly engaged in important improvement work on his road.

Jack Fogg, master mechanic of the Baltimore & Ohio at South Chicago, Ill., is lonesome. Anyone can notice his condition the moment he sees him; but in case your mental capacity is greatly overtaxed with other matters, Jack will tell you he is lonesome. If you are still in doubt, he will prove it to you. And the proof is his statement, that this year Mrs. Fogg is not with him—and then Jack will show you a fine photograph of a little Fogg who arrived only three weeks ago.

It is to be regretted that Mr. and Mrs. J. F. Graham will not come to Atlantic City this year. Mr. Graham's important duties as assistant general manager of the first district of Oregon-Washington Railroad and Navigation Company compel him to remain. It will be noted that Mr. Graham, like Mr. Fuller, of the Union Pacific, no longer fears the title superintendent motive power, his road, like the Union Pacific, having recently been reorganized under the Hine system. However, he remains charged with the duties of the mechanical department.

Mayor Franklin P. Stoy of Atlantic City, an honorary member of the X Club, composed of ex-officers of the Railway Supply Manufacturers' Association, is more and more in evidence each year as a willing worker in making the conventions successful. Just before the arrival of the M. M. convention hosts this year, he wrote to a Chicago member of the X Club as follows: "The coming to Atlantic City each year of the M. M.'s and M. C. B.'s is like meeting your family relations; and I am counting the days when I can welcome you all and wear my X pin, of which I am very proud."

Walter E. Coffin, who pursues the coy coupler contract to the farthest ends of the earth, is not here this year. The first hint that he had flitted again came on a post card marked "Lisboa," and having on it other suggestions of Portugal. The word it conveyed was, "Left Cleveland in April for South America via England, France and Spain. Will be back some time in August." After a reasonable time came another card from Buenos Aires, Argentine. This gave a brief itinerary covering Chili, Uruguay, Brazil and a few places like that, and, after expressing regret that he could not meet his old friends now at Atlantic City, he wound up thus: "I have Mrs. Coffin along. Yes. W. E. C." Now what kind of a way is that to break real news? Coffin has long had the reputation of being what the English call a "sly old top," when there were any coupler orders in the offing. He has been known to walk out of a purchasing agent's office with the order for couplers in his pocket and not tip off the bunch of waiting salesmen; but to break the news of his marriage when he is too far away to be reached, is the quintessence of sly old topness.

The absence from the staff of The Daily this year of Mrs. George Tebo, (nee Miss Jennie Boyd,) was referred to in the issue of June 17. Another who was on its staff for many years, but who is not here this year, is Francis W. Lane, whose facile, nimble pen was wont to write "conventionalities" and turn limericks which were a joy to our readers. Mr. Lane no longer is a railway journalist. He is editing a land and irrigation paper in Chicago; and incidentally, on the day the Chicago contingent of The Daily was starting to Atlantic City he was attending the wedding of his oldest son, Harold F., who has followed paternal footsteps into newspaper work, and is railway editor of the *Chicago Tribune*.

Some question may be raised as to how Mr. Lane, after so many years in railway journalism, can adopt himself to land and irrigation writing. Well, in the first place, Frank Lane can do anything that he pleases, and do it well; and in the second place, he made a long special study recently of irrigation in this country for the *London Times*, during which he acquired a very substantial special knowledge of the subject. Here is a true story, illustrating his versatility, which will amuse his friends at the conventions: A short time after he took his present job, a letter written in German came into the office of the president of his company. It was passed from hand to hand for translation, and finally came to Mr. Lane, who readily turned it into English. Later, when a letter in French was received he was asked if he could translate it, and he did so as readily as he had translated the German one. His office mates then decided to try to stall him, and began to bring him articles in Spanish, Italian and other modern European languages, all of which he easily disposed of. At last, determined to stick him, they brought him a sentence in Gaelic. When he translated this with as much facility as anything that had gone before, they all stood around, paralyzed with astonishment. Lane chuckled and let them stay paralyzed for a few days, when he confided to them that the Gaelic they had brought him was a Gaelic motto, and was absolutely the only thing in that language that he could read.

SUPERHEATERS APPLIED TO OLD ENGINES.

The possibilities of increasing the capacity of some of the older types of locomotives has only within the past year or so been taken up by the railways. The locomotives built 15 or 20 years ago were, in many instances, equipped with a boiler too small to supply sufficient steam when the cylinders and pressure were proportioned for an efficient use of the tractive weight. Hundreds of these engines are going through the shops in all parts of the country for repairs, which make it an easy and inexpensive proposition to apply superheaters. That this can be done with exceptionally good results has been proved in a number of cases, and applications are being made in this way at the present time to a large number of locomotives.

In a number of instances where new cylinders were to be applied, and where, by reason of the age of the boiler, it had been deemed advisable to reduce the boiler pressure, it has been found advantageous to apply fire-tube superheaters, and by increasing the diameter of the cylinder to maintain, and in some cases to increase the tractive effort of the engine, at the same time effecting a marked economy in coal and water. This combination has produced a greatly increased locomotive mileage before a new boiler was required, and has saved the cost of the superheater many times. It is often found possible to bore cylinders or take out cylinder bushings, thereby obtaining enough cylinder diameter to permit lowering the tractive effort without a material decrease in boiler pressure and without the necessity of applying new cylinders. In such cases economies of coal and water have been obtained which in a short time far more than make good the cost of the application of the superheater.

Several railways have ordered all engines of certain classes going through the shops for new tube-sheets to be supplied with fire-tube superheaters. This has been done only after experiments with one or two engines which have shown that such changes are an excellent investment from an operating and financial point of view. Engines thus equipped have been given a higher rating than the same engines using saturated steam. That the application of superheaters in this way will permit of a reduction in the boiler pressure is of special advantage for locomotives operating in bad water districts, where the records have shown a continual increase in boiler maintenance and repairs and a decreased life of the tubes.

stay-bolts and fire-box sheets as the boiler pressure has been increased.

REGISTRATION OF PURDUE.

Purdue men attending the conventions are requested to register at the booth of the *Railway Age Gazette*.

THE SUNDAY CONCERTS.

The two concerts yesterday in the Blenheim Exchange were thoroughly appreciated by large audiences. The Marlborough-Blenheim orchestra is an excellent one, and the soloists in particular won generous applause.

UNIVERSITY OF ILLINOIS DINNER.

The following were at the University of Illinois Dinner given at the Shelburne Saturday evening:

A. S. Goble, Standard Steel Works; A. A. Hale, Griffin Wheel Company; George R. Carr, Dearborn Drug & Chemical Works; F. H. Clark, Gen. S. M. P., B. & O.; Grant W. Spear, Dearborn Drug & Chemical Works; A. A. Stevenson, Standard Steel Works; Prof. E. C. Schmidt, University of Illinois; C. B. Young, M. E., C. B. & Q.; Walter S. Carr, Sheffield Car & Equipment Company; J. A. Kinkead, Parkesburg Iron Company; L. F. Hamilton, National Tube Company; J. A. McRae, M. E., Mich. Cent.; and P. G. Stevens, *Railway and Engineering Review*.

THE VAUDEVILLE.

The all-star vaudeville performance given Saturday night at the Apollo Theatre was a complete success. The house was filled to the last seat in the peanut gallery and even some stood or sat in the aisles. How many came late and could not get in is a matter for speculation, but there must have been over a hundred of them. Every act was well sprinkled with comedy and fun and such jokes as were perpetrated at the expense of the car builders settled well.

Judging from the opinions expressed by various persons who were in the audience, some of whom have attended many conventions, this performance was an exceptionally good one. Again the Entertainment Committee is to be congratulated.

The conventions are half over now and so far every entertainment which has been provided has been up to even the "last man's" standard. We should have a continuation of this splendid work.

REGISTRATION FIGURES.

Some comparative registration statistics are rather interesting, although it should be borne in mind that last year the M. C. B. convention was held the first week. Book No. 1, the official list of members and guests, issued last year, contained 66 pages of names; this year book No. 1 contained 134 pages. Book No. 2 last year had 125 pages and this year 162 pages. Book No. 3 last year totaled 189 pages and this year 179 pages. These figures indicate clearly the large number of early arrivals this year. Book No. 3, of this year, which recorded every registration of a member of the Master Mechanics' Association up to 6 o'clock Friday evening, showed a total of 347 names. Book No. 3, of last year, containing the M. C. B. members arriving up to 6 o'clock Friday evening, showed 376 names. No registration of Master Mechanics was attempted the first convention week last year, but this year the Master Car Builders registered during the first week and book No. 3, issued Saturday morning last and containing registrations up to 6 o'clock the previous evening, contained the names of 164 Car Builders.

The Exhibit.

The T. H. Symington Company, Baltimore, Md., is exhibiting a draft gear model with plate and angle draft sills attached to wood center sills, of Symington design, which, in addition to carrying the draft gear, serves as a reinforcement of the center sills. Both of these draft gear models have the three-key Farlow arrangement.

E. P. Bullard, Jr., president of The Bullard Machine Tool Company, Bridgeport, Conn., and his brother, Stanley, are kept busy explaining why their new vertical turret lathe is called the Maxi-Mill. It is because it represents their development of the maximum possibilities of the vertical boring and turning mill. The exhibit machine has been sold to the Treadwell Engineering Company, Easton, Pa.

During the past year the United States Metal & Manufacturing Company, New York, has perfected the Empire pressed steel truck bolster, and a test made by R. W. Hunt & Company at Columbia University, New York, on the 30-ton capacity type gave satisfactory results. At 145,000 lbs. the deflection was 0.33 in. with a permanent set of 0.102 in. The final load was 222,300 lbs., which caused the bolster to buckle at the center.

The Thor exhibit of the Independent Pneumatic Tool Company, Chicago, includes reversible wood-boring machines, which are made in three sizes, viz., Nos. 5, 6 and 14, for boring in wood up to 4 in. in diameter. The No. 6 has a capacity up to one inch in diameter; the No. 5 drill is suitable for boring up to 2 in. in diameter, and the No. 14 for wood boring up to 4 in. All Thor wood-boring drills are made in the reversible type, have the Corliss valve motion, and are equipped with a cylinder plate for giving easy access to the inside working parts.

Among other exhibits of the Farlow draft gear, the T. H. Symington Company, Baltimore, Md., is demonstrating the action of Farlow draft gear attachments. An air cylinder is attached to the end sill of a full size working model and operates a piston and rod whose inner end is connected to a casting representing the butt end of an M. C. B. standard coupler. The Farlow parts and their arrangement are the same as used with the Farlow twin spring draft gear. At the end of the extreme outward and inward travel of the gear the distribution of the shocks to the sills at six points is clearly shown.

The introduction of the L. N. and P. C. brake equipment called for a brake beam of a strength and efficiency not before contemplated, and by many thought impossible. The Chicago Railway Equipment Company, Chicago, has solved the problem in the development of its P. C. Creco brake beam, which has most successfully met all the conditions imposed. The first application of the P. C. Creco beam was in 1909, on Pullman cars; and recently some of these beams were removed, after very large mileages had been covered, for the purpose of making a minute and careful study of this service test. A rigid and critical inspection of the beams confirms the accuracy of the maker's original conception of design, construction and selection of materials, as no changes other than a few minor modifications have been found desirable. The beam can be seen at the exhibit of the Chicago Railway Equipment Company.

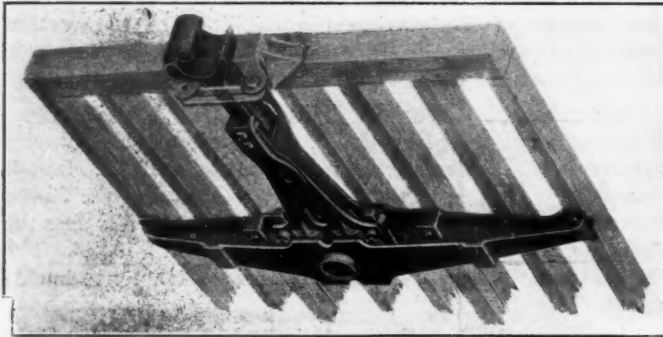
NATIONAL SASH BALANCES.

The National Lock Washer Company, Newark, N. J., is exhibiting at space 4 its latest designs in sash balances, with both belt and chain attachments. The former has brass straps at either end of the webbing, which is chemically treated to make it weatherproof and fireproof. It is a noiseless working fixture. The newly patented chain at-

tachment can be adjusted to any position along the roller, and thus does away with all soldering.

COMMONWEALTH TRANSOM DRAFT GEAR.

The draft gear shown in the accompanying illustration is made by the Commonwealth Steel Company, St. Louis, Mo. It is made up of a cast steel body bolster, which receives the buffing and pulling shocks and distributes them to the sills, thereby avoiding concentrating shocks on the center sills. It pulls radially from the pivoting point of the car body on



Commonwealth Transom Draft Gear.

the truck, and consequently shortens the pulling length of the car, reduces side strains, wheel flange shocks and wear on flange and rail at curves. It provides a simple method of securing draw bar end clearance, as the draw bar extension is made to suit any end clearance required, the standard M. C. B. coupler being maintained, and the lengthening of the coupler shank is not necessary. It consists of only three strong and simple cast steel pieces that eliminate draft timbers, tail straps and followers, and reinforce wooden cars for service in heavy trains with and between steel cars.

MOTOR INSPECTION CARS.

There has been an undoubted change of sentiment regarding motor cars for section service in the past twelve months. Experiments have been going on quietly here and there, under intelligent supervision, and under the watchful eyes of railway operating men who are keenly on the look-out for every possible economy; and these men have had in service, during the



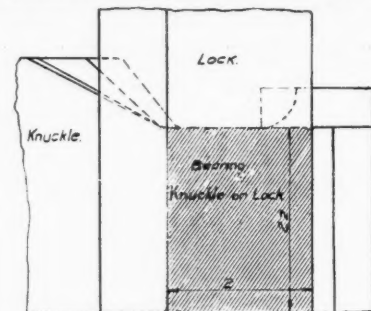
Section Track Inspection Car.

past year or two, installations of motor section cars under the control of the regular section forces, and have been keeping close and accurate data of their performances. On May 19 the *Railway Age Gazette* published a pretty complete analysis of these tests, with the data connected therewith, some of which extended back six or eight years, and in some cases was very much in detail. The reports we gather of these tests not only

show that there is an absolute economy in the use of motor cars on sections, but that there is crystallizing a feeling that they are going to contribute to the safety not only of the employees but also of the public; for it has been definitely found that fewer accidents happen to section men with motor cars than with hand cars. The condition under which the men get to work, besides being a real economy, puts into service men who go into their work without having wasted the energy used up in going to and from work on a hand car. There is in addition the advantage which may come from closer inspection, not only by the section gangs, but also by the roadmasters, who may be among their gangs every day, instead of handling them more or less at long range, dropping off written instructions to them from the back end of a train, as must necessarily be more or less the practice where hand-propelled cars are used. This latter advantage, if there were no other, stands as a recommendation for the use of motor cars; in fact, in addition to the regular section motor car, some railways are adopting the plan of having a special car for the exclusive use of the roadmaster, so that he may go about from one section to the other, inspecting his track and the work of his forces closely and intimately each day, and be able to move along over his division without disturbing the operations of the gangs. A roadmaster recently said that the advantage just mentioned was considerable, as he could get over his entire division, and see each section gang at least every other day; whereas, when doing his inspection on regular trains it was impossible for him to make a similar inspection oftener than once every thirty days. The type shown in the accompanying illustration is especially fitted to do inspection work; it was built by Fairbanks-Morse & Company, Chicago.

FREIGHT COUPLERS.

The McConway & Torley Company, Pittsburgh, Pa., is showing in connection with its exhibit at booths 617, 619, 621, a new design of freight coupler which it calls the Penn. This coupler, shown in the accompanying illustration, is a combination of the features of the Pitt and Janney X couplers made by this company, and provides an increased bearing surface between the locking pin and knuckle, this surface being increased to 5 sq. in. It is different from the Janney type in that it has a vertical locking pin which does not extend through



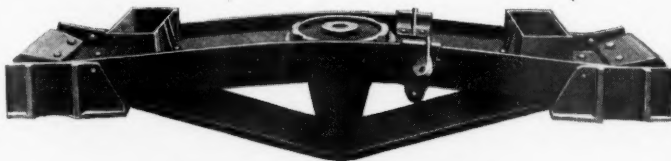
Penn Freight Coupler.

the bottom of the coupler. Another feature is the accessibility of the parts, the locking pin and the knuckle opener can be removed and replaced without removing the knuckle. The coupler also has a heavy section of metal in its contour face. It has the features of a lock-to-the-lock, which prevents the locking pin from climbing or creeping by the oscillation of the cars in bumping over rough frogs or switches; a lock-set, which retains the locking pin in the open position without the necessity of locking up the uncoupling lever on the side of the car; and a positive knuckle-opener, which pushes the knuckle open to its fullest range of movement by the operation of the uncoupling lever at the side of the car, thus preparing for automatic coupling without any further adjustment or attention from the trainmen. The coupler on exhibition

has a long head designed to meet the latest requirements of the Interstate Commerce Commission, covering the distance between cars when coupled up in train.

TRUCK BOLSTERS.

The American Steel Foundries, Chicago, this year is exhibiting a new type of Simplex truck bolster which is sold under the trade name of Samson. This bolster is made at the Simplex plant and is intended for use under heavy tenders. On account of the short wheel base, a constantly varying load and the difficulty of providing suitable springs; the conditions of service under locomotive tenders, even of



Samson Tender Truck Bolster.

comparatively light capacity, have always been severe. With the newer type of tenders having a large capacity for fuel and water, the weights carried demand a heavy and strong bolster. It is for service of this description that the Samson bolster has been made. The compression member is made of a heavy 15 in. rolled steel I beam, a rolled steel tension plate and a heavy cast steel center plate and king post. They are designed with the idea of giving strength vertically as well as transversely to withstand the blows and shocks, due to the inertia of the trucks, as well as the strain



Box Shape Cast Steel Truck Bolster.

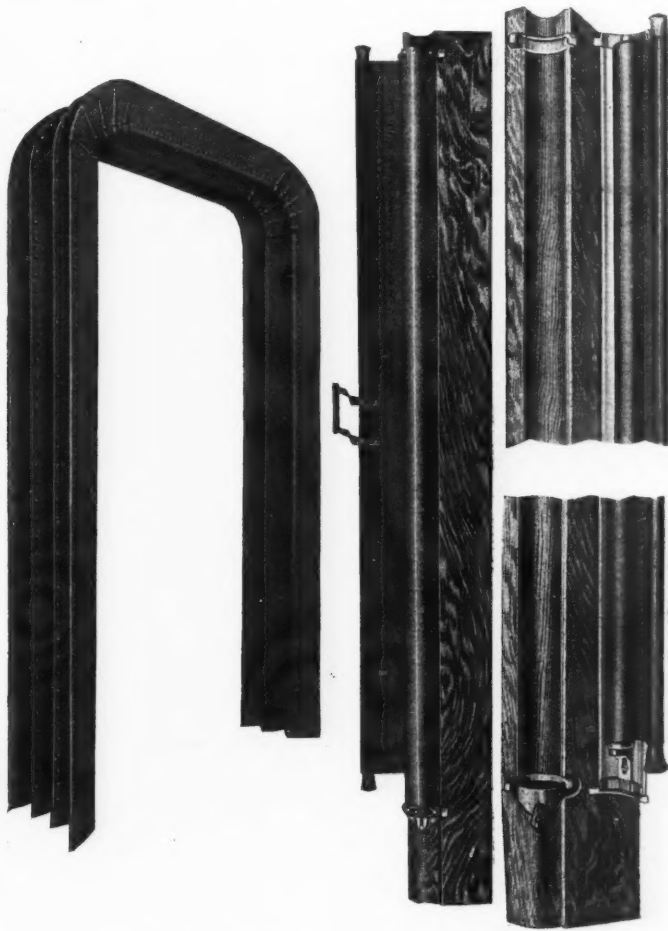
and stresses resulting from imperfections in the track, and from the heavy brake applications which are common in modern railway practice. The cast steel box section bolster is also being exhibited in connection with the American Steel Foundries' 75-ton truck. This bolster is designed for use with any high capacity truck where the axles are provided with 6 in. x 11 in. journals. Bolsters of this type are designed to provide strength both vertically and transversely, making them well suited for the heaviest class of equipment.

VESTIBULE DIAPHRAGMS AND CURTAIN FIXTURES.

Improved forms in the construction of vestibule diaphragms and vestibule curtain fixtures are included in the exhibits of the Railway Appliances Company, Chicago. Diaphragms are shown mounted on face plates which are constructed without any corner joints and are of a solid type of construction. One of the features tending to increase the life of the diaphragm is an unusual amount of expansion provided to prevent tearing of diaphragms near the foot.

A vestibule curtain casing, with brackets and handles, is also included in the exhibit, and is shown herewith. The brackets are a part of the casing, and by simply pushing aside a button at the top the casing is removed from the vestibule post with the curtain. A sliding bracket, with a set screw, enables the curtain to be quickly removed from the brackets. This saves time and trouble in making repairs in the shops, and avoids the necessity of removing any screws or fittings from the car in order to set up or take down curtains. Another feature is the fact that the curtain

rolls out of its housing in a straight line without chafing or binding over the edge of the post and produces a free operating roller which saves much of the damage that usually occurs to vestibule curtains in service. A special feature also is the release handle for vestibule curtains which is automatic and positive and does not rely upon spring tension to uncouple it when the cars have been parted without



Vestibule Diaphragm and Curtain Fixture.

uncoupling the curtains. This is accomplished by a trigger or tripping device that loosens the pivoted handle bar as soon as the curtain has been unrolled a fixed distance and before it can be torn from the roller.

HUTCHINS ALL STEEL-STEEL CARLINE ROOF.

The roofing sheets, carline caps and ridge caps of the Hutchins all-steel carline roof, are made from 1/16-in. steel plate galvanized, and the carlines are 7/32-in. rolled steel, having side plate brackets riveted to the carlines. The brackets have a dowel pin that fits into the side plates and also receives the bolt that passes through the side plate. At the ridge, malleable running board saddle castings are used, and over the running board saddle castings, galvanized steel running board covers. The roofing sheets are secured to the car with two bolts, together with malleable thimble castings which allow for the air-spacing of the down turned roofing sheet flanges between the fascia of the car.

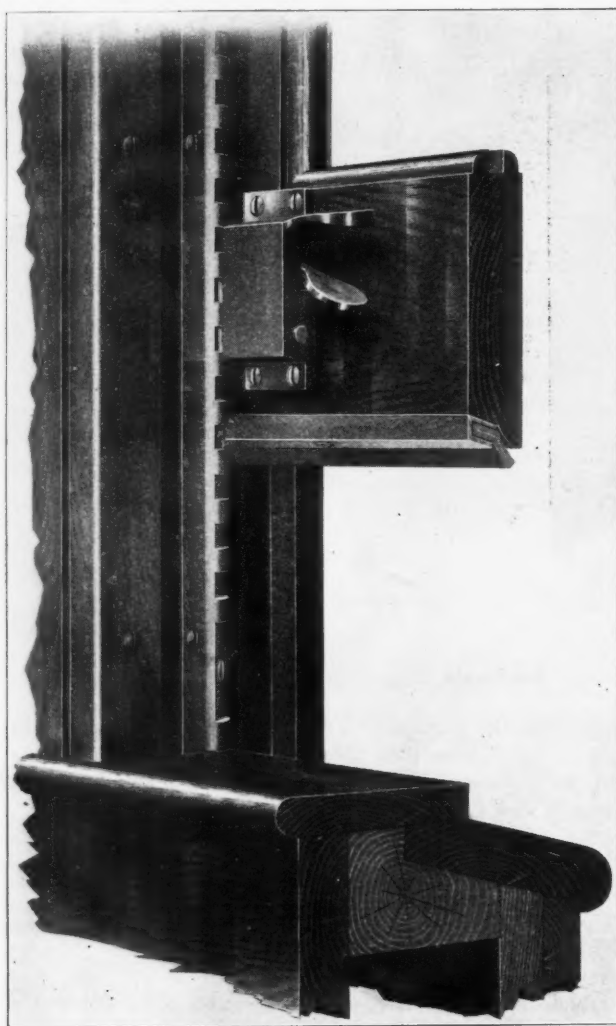
The carlines are bolted to the side plate, and the fascia are also bolted to the side plate, and the roofing sheet bolts only extend through the fascia, but not through the siding of the car; thus, any bolts used to secure the roof that pass through the siding of the car, are covered by the down turn flange of the roofing sheet. This does not allow water to follow the bolts and get on the sheathing of the car. Two purlines, one on either

side of the ridge of the car, are placed below the carlines, and the ridge pole is placed above the carlines. The side plates, pur-lines and ridge pole support the roofing sheets, carline caps and ridge caps.

The Hutchins Car Roofing Company, Detroit, Mich., manufactures this roof as well as outside and inside metal car roofs and plastic car roofs. This company is represented in Chicago by the Spencer Otis Company, and in New York by the U. S. Metal & Manufacturing Company.

UNIVERSAL WEATHER STRIPPING

Universal weather stripping manufactured by the McCord Manufacturing Company, Chicago, here illustrated, when used in combination with either metal or wooden sash, is claimed to make the windows positively wind and weather proof. On wooden sash, it takes care of the conditions caused by the swelling and shrinking of the wood.

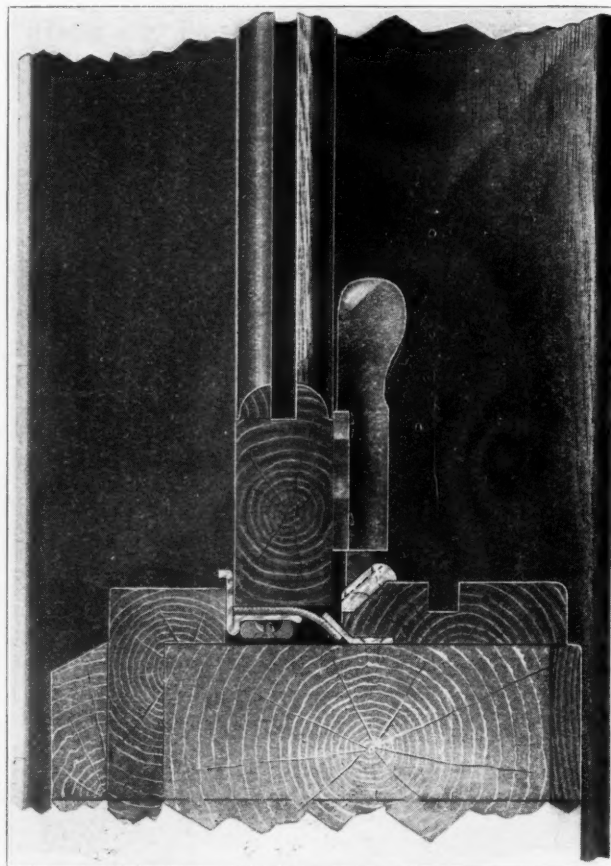


Universal Weather Stripping and Wedge Sash Lock.

The special grade of weather stripping furnished by the McCord Company should be serviceable for from 10 to 12 years. It is claimed that its superior value as compared with metal weather strip has been definitely determined. The class of weather stripping furnished by this company has been found, after years of service, to form a positive contact, insuring a tight yet flexible joint the entire height of the two sides of the sash.

A special grade of rubber 1/16 in. thick, covered on one side by first grade of linen duck, applied with the duck side forming the bearing, has been found to retain its flexibility with apparently no deterioration for a period of five years, and the manufacturers are confident that it will remain flexible for more than

double that period. However, it is not possible for the weather strip to become unseated from the bearing and it will always retain a positive contact, being held to its seat on account of its peculiar construction. The surface of the weather strip, after a time, takes on a sort of metal coating, and after several



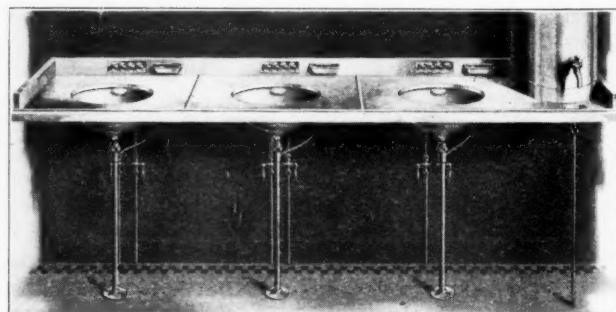
Application of Universal Weather Strips to Coach Sash.

years of service it is found that there is no perceptible wearing of the surface of the strip. Ten full sized windows showing the most improved methods of window construction are exhibited in booths Nos. 655 and 657 in the annex.

ADLAKE WASHSTAND.

The Adams & Westlake Company, Chicago, has been making washstands for 25 years and the one here illustrated is its latest product in this line.

The washstand is made of white Ajax metal, is solid and the same all the way through. The washstand has some decided advantages in, that the drain valves and faucets are



Adlake Washstand for Pullman Cars.

removed from the surface, which gives a neat and clean appearance. The valves operate to furnish either hot or cold water and also for opening or closing the drain valve. Every-

thing about the washstand is easily detachable, and if for any reason anything gets out of order, repairs can easily be made. The Adlake washstand is made with either one, two or three bowls, and with open or closed plumbing.

BETTENDORF CONTINUOUS UNDERFRAME.

The simple freight car underframe with minimum weight and number of parts, together with maximum strength which permits easy inspection and ready access for repairs as found in Bettendorf construction is made possible by the careful distribution of metal so that all members are designed as to effectually carry their proportions of the load with nearly equal maximum fibre stresses.

The Bettendorf underframes, made by the Bettendorf Axle Company, Davenport, Iowa, are furnished in two types, single center sill and double center sill designs, and are built to suit the conditions for any type of car.

In designing such underframes, it is necessary to select a center sill, or center sills of sufficient strength to carry all the load and absorb all the shocks. It is also necessary to design the cross members (needle beams and body bolsters) to transmit their load from the side sills and floor directly to the center sill through which they pass; thus making the members continuous from one side of the car to the other as well as from end to end of car, which dispenses with the possibilities of poor workmanship on rivets and joints and makes a design which does not depend on rivets to carry the load.

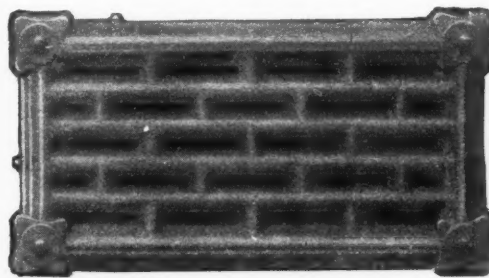
The center sills are made from commercial rolled shapes of I-beam cross section of sufficient depth to carry the entire load. These are shaped and punched cold in special hydraulic

stringers, so as not to depend too much on the wooden sills to transmit the floor load.

The side and end sills are designed to accommodate the superstructure of the car and are made from either channels, Z-bars or angles; they are not designed to carry the load in the car but merely to transmit the load to the needle beams, body bolsters and end sills which in turn transmit the load to the center sill.

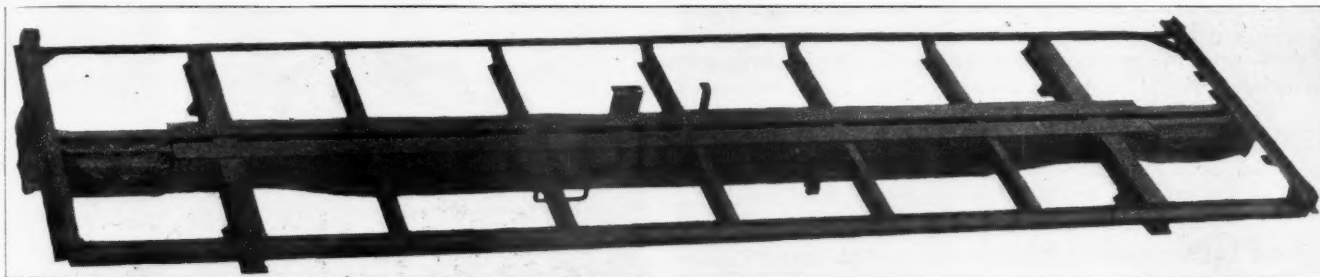
ATHENIAN WALL RADIATION.

Athenian wall radiation occupies little space in the room. It is well adapted for station heating, switch tower heating, and also for shop heating. It is very nearly as efficient as



Athenian Wall Radiator.

pipe coils, costs less to install and presents a better appearance. The cross bars in its construction prevent any air binding and also insure positive circulation of steam or water.



Bettendorf Continuous Car Underframe.

machinery in such a manner that one-half of the sill is punched and shaped in one stroke of the press, making all sills interchangeable with no variation in the spacing of holes, and preventing the possibility of internal forging stresses. This method also eliminates the necessity of using drift pins and reamers in order to match rivet holes and consequently insures good riveting and eliminates the fracture of metal due to the drawing up method of drift pins. All the riveting is done by hydraulic compression riveters as far as possible.

To the ends of center sills are secured the Bettendorf cast steel draft sills, or center sill ends, which are made of thoroughly annealed open hearth cast steel designed to give ample strength, in which are combined the functions of draft sills as well as draft gear stops. These center sill ends are cast in one piece together with the necessary connections to secure them to the end sills and having the draft lugs cast integral with same. These center sill ends are designed to accommodate any desired type of draft gear the application of which is greatly facilitated due to the alinement of all parts of these castings.

A connection is provided between the body bolsters and center sill, and needle beams and center sill, of malleable iron castings which serve to hold them in position, but upon which the load carrying member is not dependent, as the load is transmitted directly from member to member and not through gussets or rivets. The needle beams are located at intervals which depend upon the size and strength of the wooden sills or nailing

It is made by the United States Radiator Corporation, Dunkirk, N. Y.

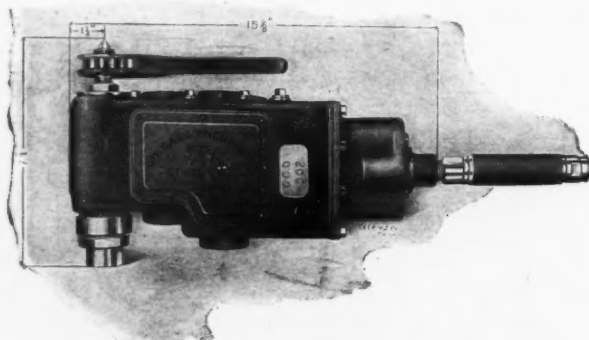
ELECTRIC HEATERS.

As some of the railways are electrifying part of their lines, and others contemplate doing so, and in consequence the necessity of electric heaters is increasing, the Gold Car Heating & Lighting Company, New York, spaces 301-311, has brought forward and is exhibiting an entirely new line of electric heaters. These are of the ventilated porcelain type, with heating elements which are interchangeable and quickly detachable in case repairs are necessary.

LITTLE GIANT CLOSE QUARTER DRILLS.

The close quarter drill shown herewith is included in the exhibit of the Chicago Pneumatic Tool Company, Chicago. These machines are designed for use in corners and close places where the regular shaped drills cannot be used. They are compact in design, powerful and capable of drilling and reaming to the full capacity of their sockets. That is, the No. 8 has a No. 3 Morse taper socket which will do drilling and reaming up to 1 1/4 in., while the No. 9 has a No. 4 Morse socket and which can be used up to 2-in. diameter. The dimensions

of both machines are $7\frac{3}{8}$ in. long overall. They are $3\frac{1}{2}$ in. wide and $15\frac{1}{8}$ in. long, exclusive of throttle handle. The distance from center of drill to outside of case is $1\frac{1}{2}$ in., the feed is $2\frac{1}{4}$ in. long, and the weight 36 lbs. The motor consists of two double-acting cylinders placed at the end of the case. Geared to the crank of his motor is a second crank on which are mounted two bearings which slide in the end of the ratchet arms, communicating a backward and forward motion, equal to the throw of the crank, thereby moving the spindle forward in a rotary direction one or more teeth, depending on



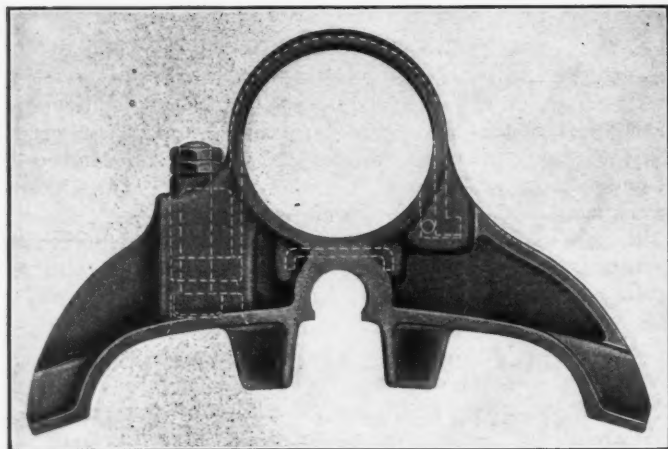
Little Giant Close Quarter Drill.

the number of teeth cut in ratchet, which determines the gear ratio of the machine.

These ratchets are mounted in the spindle, two on each side, which insures the torque on the spindle being properly distributed at all times, and prevents wear on one side of the spindle. The speed of the spindle in the No. 8 is 220 r. p. m.; in the No. 9 it is 170 r. p. m. These drills are being shown in sections with the working parts exposed. An inspection of the exhibit will show many features which are entirely new in drills of this character. The cross-heads or guides are cast solid in the housing. Cylinders are provided with stuffing box or gland, so as to prevent the cylinders leaking, thereby insuring the machine working to its full capacity.

ADJUSTABLE BRAKE HEAD FOR HIGH SPEED TRAINS.

The accompanying illustration shows the new design of adjustable brake head used on the high speed passenger brake beams, made by the Buffalo Brake Beam Company,



Adjustable Brake Head.

New York. The head is made of high grade malleable iron, with steel inserts at points of greatest strain. The adjusting arrangement is of few parts, simple and effective. The brake head can be seen at the company's space, 418.

BODY AND TRUCK BOLSTERS.

The cast steel I-beam section body and truck bolsters made by the Scullin-Gallagher Iron & Steel Company, St. Louis, Mo., are claimed to give substantial aid in cutting down the maintenance charges on railway equipment by sav-



Cast Steel Bolster.

ing in the cost of up-keep of the equipment by decreasing the dead weight to be hauled over the road, but at the same time giving a simple one-piece device with strength to meet all requirements; and by the increase in revenue which comes from more constant availability of the equipment for service. The bolsters made by this company are of basic open hearth steel, meeting stringent specifications, chemically and physically; so designed as to give strength with minimum weight, and every bolster is thoroughly and carefully annealed before shipment.

BUFFALO JOURNAL BOX.

The Pratt & Letchworth Company, Buffalo, N. Y., is placing on the market a malleable iron journal box, one of the features of which is the cylindrical cam, with a flat surface, on the cover



Buffalo Journal Box.

through which the hinge pin passes. If the lid of the Buffalo box is left open it will close and lock automatically, because of the weight of the lid, the flat surface of the cam acting as a lock. The only resistance offered to the closing of the lid is the friction between the revolving cylindrical surface of the cam and the cover over the two spiral springs, shown in the illustration, which is pressed up against the cam. This friction,

of course, is inconsiderable and offers no appreciable resistance to the closing of the cover.

The Buffalo box has M. C. B. face and hinge, making it perfectly interchangeable with the M. C. B. lid.

DAHLSTROM STEEL INTERIOR CAR WORK.

The Dahlstrom Metallic Door Company, Jamestown, N. Y., believes that it originated the idea of making buildings fireproof by using all-steel interior finish. In order to obtain the same effect as that of the most costly woods, these all-metal products undergo from 20 to 25 distinct operations. The finish is obtained by a process of enameling and baking. Many modern office buildings are finished with Dahlstrom products.

Dahlstrom steel interior car trimmings, such as sash rests, car posts, car moldings, doors, berths, seat ends, partitions, window battens, etc., are being supplied to the largest car building companies. The first all-steel car was built by the Pullman Company and was exhibited at the Jamestown exposition. The interior trimmings of this car were furnished by the Dahlstrom company.

The use of all metal interior trimmings is claimed to add considerably to the strength of the car, decrease the liability of accidents during a wreck, and eliminate almost entirely the creaking noises so common to wooden equipment. Further advantages are durability, absolute safeguard against fire, and uniformity of design and color. The best passenger cars of some of the leading railways are equipped with the Dahlstrom interior work. This idea is in line with the evolution of railway equipment towards better service and the elimination of risks for the traveling public.

Samples of the Dahlstrom products are on exhibition in space 384.

RECORDING METER FOR MEASURING STEAM FLOW.

The General Electric Company, Schenectady, N. Y., has installed, with its exhibit, a recording and indicating meter which measures the total steam used by all exhibitors, from the boilers on the pier.

These instruments are comparatively new and have been only recently placed on the market. The meter is adapted to recording total steam generated by a battery of boilers; the amount delivered to any department of a manufacturing plant and the amount sold for power or heating. It discovers losses due to leaks from defective traps, gaskets, or valves. It may also be usefully employed in determining the loss due to the formation of scale, and as a means of determining efficiency in the method of stoking.

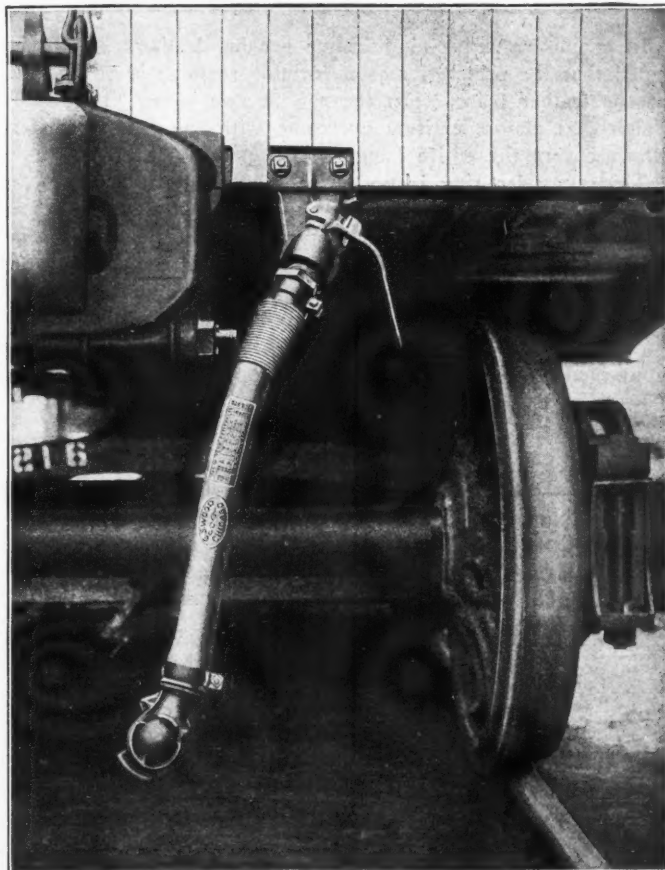
It is difficult to describe the instrument without drawings, and those interested in such meters should see the one in operation at the General Electric exhibit.

THE DEARBORN EXHIBIT.

Probably the most artistic booth for convention purposes that has ever been seen in Atlantic City is that of the Dearborn Drug & Chemical Works, Chicago, adjoining the ballroom on the pier. It is known as "Dearborn Lodge and Gardens," and it took weeks of time and labor to complete it for the opening of the M. M. Convention on Wednesday morning. The feature of the gardens is the electric fountain in front of the lodge, from which flows pure water of vari-colored rays. Flowers in full bloom, green lawns and an electric lighted pergola, surrounding the fountain, all add to the beauty of the scene. Simple receptions are held on the lawn and on the front porch of the lodge afternoons and evenings. H. G. McConaughy, of the Dearborn company, is receiving many congratulations for the artistic results he has achieved in planning and building the lodge and gardens.

WOOD'S HOSE PROTECTOR AND PRESERVATIVE.

The damage to air brake hose by abrasion at the nipple end so reduces the life of the hose that it will not average more than twelve months from date of application, an inspection of the scrap pile showing that about 50 per cent. are damaged by abrasion or chafing. If the hose is protected at the nipple end, this loss by chafing and abrasion will be reduced so that a saving of from 40 to 50 per cent. in the cost of air hose maintenance will be obtained. Wood's flexible nipple end hose protector, made by Guilford S. Wood, Chicago, produces the required protection at the most vulnerable point. The wire coil makes the protector



Wood's Nipple End Hose Protector.

flexible and can be used on any standard make of air brake hose, and is claimed to be practically indestructible.

The nipple end hose protector is shown in the accompanying illustration. In addition to its extensive use on American railways, it has recently been ordered in large numbers for English railways, as well as for the Western Australia Railway.

The hose preservative, also made by Mr. Wood, has been ordered by the Tasmanian Government Railway and by the India Rubber Gutta Percha & Telegraph Works, of England, indicating the increasing demand for these goods in foreign countries as well as the United States.

J-M AIR BRAKE CYLINDER PACKING EXPANDER RING.

There has been some discussion during the past few years regarding brake cylinder leakage and packing leather wear and different means have been adopted to overcome these defects. The H. W. Johns-Manville Company, New York, is exhibiting a brake cylinder expander ring which, it is hoped, will relieve some of the troubles that have been encountered. This device is of a peculiar section, being so built as to give a

much greater bearing surface, which, of course, will reduce the wear of the packing leathers; in fact, it is predicted that with the use of this device it will be possible to increase the life of the packing leather considerably.

The cost of renewing brake cylinder packing leathers is often a large item, owing to the frequency of such renewals. By increasing the life of the leather, this expense will be reduced and the efficiency of the brake materially increased at the same time.

Pressure retaining valves may be in perfect condition, but their function absolutely destroyed by reason of defective packing leather. Anyone familiar with the troubles due to defective and leaky brake cylinder packing, will recognize the relation of this device to the proper and economical operation of equipment.

In examining removed defective packing leathers, it will be noted that the principal reason for this removal is on account of the leather being worn through at one point. This, it is claimed, is almost entirely overcome with the J-M expander, which covers the entire flange of the packing leather.

This expander ring is not in the experimental stage, as it has been tested out thoroughly by many of the leading railways. In some tests, it has been found that the life of the packing leather is materially increased and also the brake cylinder leakage has been reduced to a minimum. This expander ring can be applied easily to any brake cylinder without any change of the piston follower or any of the other contained parts in the brake cylinder.

A NEW TEST FOR STEEL BOILER TUBES.

For some time the National Tube Company, Pittsburgh, Pa., has been experimenting to find a rigid test for its steel boiler tubes that will show positively the character of material in every tube made. After many methods were tried and rejected, a test was devised which is a real eliminating



Spellerized Boiler Tube Test.

test—an eliminating test because it eliminates the tubes which have defects in material or manufacture.

The accompanying illustration shows this test; the first piece represents one of the two pieces which are cut from both ends of every spellerized boiler tube, one piece being cut from each end.

The second illustration shows the same piece laterally compressed, and the third view shows the same tube compressed from the side and flanged at the top.

It is to be remembered that, (1) this test is made on two pieces from every spellerized steel tube that is made by the National Tube Company; (2) this test is made while the spellerized steel boiler tube is stone cold; (3) this test is in addition to other tests lately made, such as the hydraulic test, expanding test, etc.; and (4) this test is the first test made, and should the tube show up in any way defective it is summarily rejected.

Inasmuch as the requirements of locomotive boiler tubes are becoming increasingly severe, this test is being received with much favor by mechanical officials who desire to know that their boiler tubes will give maximum results in actual service.

SUMMERS BALANCED SIDE BEARING TRUCK.

The Summers balanced side bearing truck, made by the Summers Steel Car Company, Pittsburgh, Pa., is on exhibition in space 149, in Machinery Hall. The side bearing element in truck construction is not new, but the Summers truck and the Summers all-steel box cars with trucks of a similar design are well worth a careful study by all interested in rolling stock and railway economics. It embodies new elements which promise well for the successful general

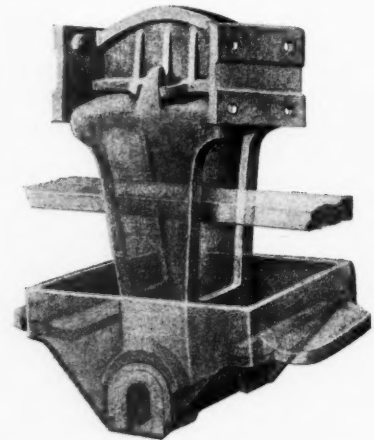


Fig. 1. Side Bearing Rocker Construction; Summers Truck.

application of the side bearing principle, long considered fundamentally ideal in truck construction.

The side bearings consist of cast steel rockers pivoted in a spring saddle and made to straddle the truck side frames, which may be of the standard arch bar type. Fig. 1 shows this feature of construction. The pivot bearing surface of the rocker is $4\frac{1}{2}$ in. in diameter by $11\frac{1}{2}$ in. long, the pivot being covered by a sheet of high carbon steel pressed and locked in place. These proportions are calculated to retain lubricant which is carried in the hollow of the rocker castings. The segmental rockers are $19\frac{1}{2}$ in. in radius, which means in effect that the entire load is carried upon four roller-wheels 39 in. in diameter. One of the most novel elements, however, is the balanced feature, through the method employed in suspending the car body to the trucks. Upon the side bearing rockers is placed a cradle member, made up of two structural channels, tied together at the ends and the middle by steel castings. To this cradle the outwardly inclined wrought steel hanger bars, two on each side, are suspended, their solid forged T-heads engaging between steel plates riveted to outer end of cradle. The lower ends of these hanger bars are connected by a heavy steel bar of rectangular shape, and suitable hanger castings on the car body engage and rest on the top surface of this bar. In this scheme of suspension there are no sliding surfaces, the hanger both at the top and the bottom rocking in its respective supports; the

necessity for lubrication is thus eliminated. Summing up the features of this suspension, it is clear that:—

First—An evenly loaded car body on a pair of these trucks on a level track will maintain a level position.

Second—With one truck on the level and the other on twisted or super-elevated track, as when going from straight track to a curve or vice versa (the severest service condition encountered), the end out of level will adjust itself, the car body moving downward and inward with relation to the curve; the other truck on the level track will in a similar manner effect the equalization of its share of the load. When considering the mechanical points of this inclined hanger arrangement, it should be borne in mind that the lower ends of the hangers on each truck are virtually connected together through the car body, and hangers will move one way or the other in unison, responding to whatever gravity or centrifugal forces may exist until the horizontal components for each opposite pair of hangers are equal and thus balanced.

Third—When rounding curves the segmental rollers come into play in conjunction with the balancing feature, and the car body will assume an inclination commensurate with the speed and super-elevation, if any, on the curve; and sim-

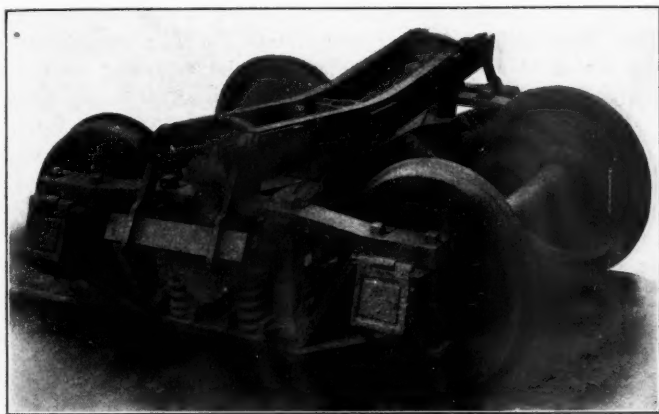


Fig. 2. Summers Balanced Side Bearing Truck.

ilarly for a stop or a lower than calculated speed about a given curve, the top of car body will swing outward and the bottom inward, thus equalizing whatever centrifugal or gravity forces there may be. This effect is due to the fact that the center of gravity is always a considerable distance below the virtual center of motion formed by the junction of radial components through the center of the inclined hangers.

Fourth—The trucks equalize in unison, each taking its proper share of the abnormal conditions that may exist. If designed to take care of 4 in. of vertical motion, a pair of these trucks will absorb a maximum of 8 in. of twist in a car length of track without transmitting such stresses into the car body.

Fifth—For any car body of rigid construction, such as all-steel passenger, hopper, gondola or box cars, this truck will effect an equalization of the load on the axles and wheels under the most abnormal track conditions.

Sixth—For any car body, stresses due to rigid center-bearing trucks going over uneven tracks are reduced to the minimum; thus for refrigerator or tank cars, where air or water-tight construction is imperative, this feature is invaluable, in that the car body is relieved of twists and distortions imposed by the alternate contact of the side bearings on the opposite corners of car. The junction of the side frames presents a construction of extreme rigidity. A 12-in. I-beam is split to 20 in. where it connects to the top of the column posts, and a 7-in. channel spring plank forms

the tie at the bottom, an effective cross-tying insuring permanency in squareness of the truck structure. On the I-beam transom on each side of the king pin, transversely and connected with it, is placed a helical spring, incased. These springs come into play upon curves, relieving the leading wheel of the concentrated effect of a swerving load, and thus distributing it over a much greater rail length and area.

As may be noted from the illustration, chafing plates on the cradle are set low purposely to bring them down into line with the pull. Similar plates on each side of the cradle are provided on the car body. The brake-beam hangers are made of forged steel and the hanger brackets are placed directly on the flange of the I-beam transom and are riveted to it. The trucking of cars with these trucks is as easily accomplished as with the center-bearing truck, it being necessary only to hold the hangers in their inclined position while letting the car body into position.

The side-bearing rockers of such large diameter-equivalent are, of course, very effective in reducing flange and rail friction about curves. With all four side bearings on a car body always in contact, the pounding and grinding due to the intermittent contact of friction or anti-friction side bearings is eliminated. Carrying the load on rockers revolving in machined surfaces, thoroughly oiled, on a rolling contact where they engage with the load, should reduce the friction to the minimum as compared with the non-lubricated center plate support. Equipped with a pair of these trucks, the Summers all-steel box car, now on the track exhibit near the Pier, has been in continuous service for nearly a year. Recently it returned from San Francisco under a load of wine in the short time of 16 days. Going west it carried 105,353 lbs. of tin plate, which was received in excellent condition. It was 23 days en route. No repairs have been made on this equipment since it left the builders.

MOUNTAIN TYPE LOCOMOTIVE

An interesting addition to the American Locomotive Company's exhibit, space 422-24, is a photograph of a new type of heavy passenger locomotive, one of a number it has just finished for the Chesapeake & Ohio. It has been named the Mountain type, because the engines will be used in fast passenger service on the 80-ft. grade between Charlottesville and Clifton Forge.

The type was developed for the purpose of eliminating double-heading on the C. & O. limited trains. The road's present Pacific type engine can handle only six cars on this division on the schedule now in force, while the new engines are designed to haul 10 cars on the same schedule.

The wheel arrangement is something new in this country, being of the 4-8-2 type.

They are the heaviest passenger engines that the American Locomotive Company has ever turned out, weighing 330,000 lbs., of which 248,000 lbs. are on the driving-wheels. The cylinders measure 29 in. x 28 in., while the driving wheels are 63 in. in diam., so that at the boiler pressure of 180 lbs. the maximum tractive effort is 58,000 lbs.

The engines are equipped with Schmidt superheater.

DOYLE METAL POSTS.

The Doyle metal post was designed to reduce the number of parts of a car to a minimum. The guides for the sash, and the curtain fixtures, are formed in the post itself, thus doing away with the necessity of providing extra strips and stops for this purpose. These formations and corrugations in the post also add to the rigidity. Between the sash and the post there is an outward spring thrust shoe carried by the sash and having a wedge or other suitable engagement

with the corrugation or sash guide formed in the post. These shoes automatically adjust the sash to any variations there may be in the distance that the posts may be set from each other, and to any variation in their vertical alignment. They also permit the sash, along its lower edge, to adjust itself automatically to the camber of the car.

This shoe engagement also renders the sash dust-proof. The guides or frames on the posts, upon which the sash shoes operate, are covered with a brass capping, which becomes oxidized from the action of the atmosphere and thus prevents the shoes from coming in contact with the paint or finish of the post.

Another advantage afforded by the sash shoes is that they permit almost instantaneous withdrawal of the sash from the opening, and without the necessity of removing any of the customary sash guides. This is accomplished by forcing the shoes inwardly to the sash, which permits the whole to be swung free of the opening.

The Doyle posts are formed out of one piece of metal, like many of the other products of Forsyth Brothers Company, Chicago, and afford the maximum strength and rigidity with minimum weight.

They are adapted to any construction of car, and are suitable for use in either wooden or steel construction. They are joined along the floor and at the top of the car construction in such a manner as to be removed readily at any time.

In addition to the above specialties, the company manufactures pressed metal carlines, roof sections, and other exterior and interior steel finish generally.

THE WESTINGHOUSE ELECTRICAL EXHIBIT.

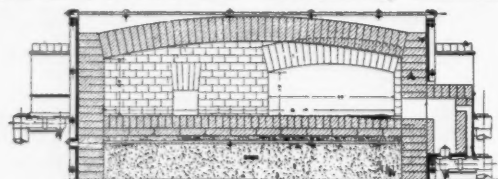
The Westinghouse Electric & Manufacturing Company, Pittsburgh, Pa., is exhibiting a large line of motors and controllers especially adapted for shop and machine tool drive. The motors include direct-current machines for general power and adjustable speed machine tool service, squirrel cage alternating-current motors, slip ring alternating-current motors, and single-phase motors. The type MW slip ring motor for elevator, crane and hoist service is proving especially interesting to visitors.

Another exhibit is an automatic magnetic-switch controller for wheel lathe service. The controller operates automatically, and the motor can be started, slowed down, and stopped from any point by means of push buttons. This arrangement is of special advantage in turning down wheels with hard spots on the tires.

A number of domestic appliances, such as sewing machine motors, buffing and jewelry motors, and the general utility motors, are also on exhibition.

FERGUSON FURNACES FOR STEEL CAR REPAIRS.

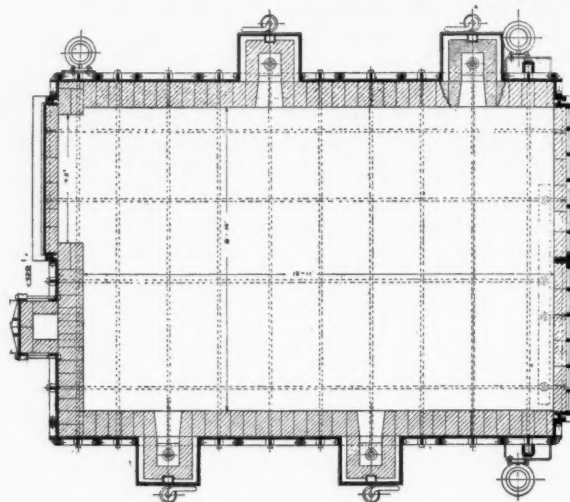
A large percentage of repair work on steel cars consists of straightening and replacing damaged plates or sills, and such work must be done hot. The Railway Materials Com-



Cross Section of Ferguson Furnace.

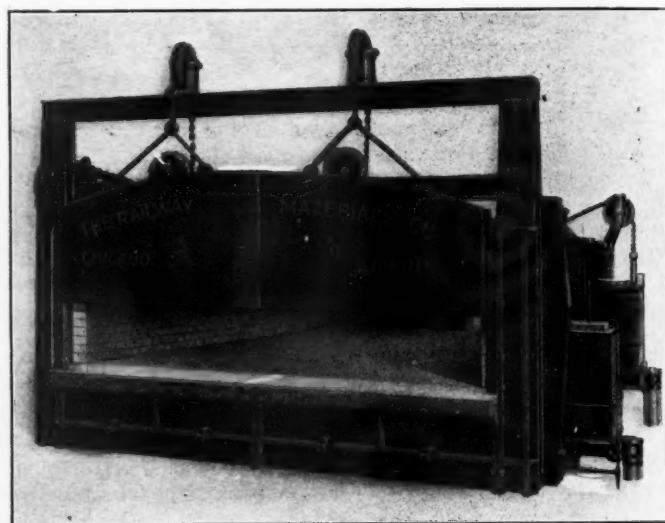
pany, Chicago, has equipped several shops with Ferguson furnaces, designed especially for this work. The furnace in the accompanying illustrations has an inside dimension of 9 ft. x 14 ft., and is capable of heating the largest car plates.

A full-width door on the front end is designed to operate in two sections. Opposite one of these sections in the rear wall is a single door and on this side of the furnace one



Plan of Ferguson Furnace.

of the combustion chambers is lowered to the floor level. This arrangement is very convenient for running through the furnace long sills or similar material requiring local or center heats, necessitating the operation of the low com-



Steel Car Repair Furnace.

bustion chamber only and saving the expense of heating up the entire furnace. For plate straightening, the remaining three burners are sufficient to bring the entire furnace area up to a uniform temperature of any required degree.

In Queensland, the northeastern colony of Australia, where for some years there has been very little railway building, while the country was recovering from the three-years' drought, the government now purposes to construct a line along the coast from Rockhampton northwestward, 634 miles through Mackay and Townsville to Cairns—all coast towns; and another nearly parallel with it, but about 350 to 400 miles further west from Charleville, the terminus of a railway from Brisbane, northwestward through Longreach and Winton and Cloncurry to the western border of the province at Camooweel, 1,282 miles. This latter would serve as part of a great transcontinental line to the northwest coast of Australia, and would make an enormous grazing country accessible.